

Meeting their potential: the role of education and technology in overcoming disadvantage and disaffection in young people

**A review of literature, policy and practice commissioned by
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Executive summary

Introduction and methods

One of the key aims of the Department for Children, Schools and Families' Children's Plan (DCSF 2007) is to close the gap in educational achievement for disadvantaged children. Becta commissioned this review to bring together current evidence on how disadvantage and disaffection has an impact on the lives of young people, and to ask what role ICT can play in raising young people's aspirations and educational attainment.

Desk-based research was undertaken, covering around 200 articles from the literature, policy documents and (generally unevaluated) project examples.

Education is a particular focus because educational attainment is associated with virtually every standard measure of socio-economic success. Circumstances outside the immediate educational sphere, ie disadvantages both from physical and emotional perspectives, affect a child's capacity to achieve, and need consideration.

Understanding disadvantage and disaffection

Approximately one-third of children face some form of disadvantage, and this is likely to affect their educational attainment. Disadvantageous factors include deprived neighbourhoods, low income and poor health.

Demonstrating the relationships between different factors and distinguishing cause from effect is challenging.

Disaffection is the resulting internal emotive changes for those facing disadvantage. Disaffected young people feel estranged from the social norms, particularly regarding education, and may lack motivation and have behavioural problems. Two phenomena are of concern:

- **Path to failure** in which the disadvantages that an individual faces are usually apparent in early life and persist long into adulthood and old age
- **Cycles of disadvantage** when deprivation in one generation is likely to pass down to the next.

Framing the issues of disadvantage and disaffection

Cultural and social capitals (essentially skills and networks) are resources available to individuals that enable them to make progress within their lives and increase the benefits available to them. 'Field' expresses the set of rules and logic in which a competitive system of social relations takes place.

These terms, along with the three-tier Framework of Disadvantage, help to frame an understanding of the challenges facing a disadvantaged young person. The Framework of Disadvantage illustrates disadvantage from an individual's perspective, describing the social, physical and economic environment that exists around that person. The three tiers are:

- Physical and socio-economic infrastructure, such as housing and schools
- Relationships with family, friends and the local community, and the behavioural norms adopted through socialisation
- Identities developed through interpretation and internalisation of experiences.

Educational attainment and disadvantage

Educational attainment has been identified as a key factor in either escaping from the cycles of exclusion or contributing to them. Low attainment can generally be interpreted as underachievement, since high proportions of disadvantaged children with normal IQs underachieve.

Specific factors tend to support young people in gaining maximum benefits from education. At Key Stage 3, extra spending of £100 per pupil, per year, for three years increases attainment of pupils receiving free school meals by about 10%. The biggest effects come from outside the school environment, for example from parental involvement, with the influence of peers and mentors increasing at around age 10.

Interventions to improve educational attainment need to start early and be sustained. Resources need to be well targeted and complete (ie they need to cover most aspects of the Framework of Disadvantage). Overall, holistic approaches are required.

Role of ICT in young people's lives

ICT can support learning

Children and young people are increasingly using ICT and the internet as a learning aid both in the classroom and for homework. Access to the internet helps motivate disaffected pupils to read, and software packages support writing skills, because mistakes can be deleted and corrected without shame.

A pedagogy backed by an understanding of how ICT can personalise and enrich learning has resulted in test outcomes improving beyond expectation in disadvantaged areas. A number of initiatives have also used ICT to re-engage significantly disaffected learners with formal education and provide an alternative to the school environment and distance learning for traveller families.

Further benefits of ICT use

ICT use can support the development of softer skills such as networking, collaboration and problem-solving. Gaming may develop such skills, but the nature of the game is probably important. Forms of use that are more beneficial are more likely to be undertaken by more resourced children, but this aspect is not clear.

ICT can also be used as a social and cultural tool for sharing information and experiences through peer-to-peer networking and communities of interest. This has been shown to benefit isolated rural young people.

ICT can assist schools in achieving greater social diversity by enabling communication and co-operation through virtual and real linkages with other schools in different geographic and socio-economic environments.

Furthermore, ICT can support disadvantaged members of minority groups, particularly those with concealable stigmatised identities, for example homosexuals, increase their self-esteem through acknowledgement and reinforcement of that identity.

ICT can enable confidential support and advice. This is important when a young person faces challenges related to sensitive issues such as health, bullying and crime. These challenges are more likely to be faced by young disadvantaged people, and yet such young people's access to information is less due to diminished social and cultural capital.

Finally, ICT can support political activities.

Integrating ICT into support systems and services

Current practices can be enhanced through technology, but practices can also be completely revolutionised with the new tools. Effectiveness can also be improved and, in the context of disadvantage, this takes four main forms:

- Supporting frontline staff – through mobile tools, better connections to other staff and less bureaucracy
- Operational data-sharing – to manage multiple interactions and allow agencies to target and personalise support
- Supporting policy – by sharing strategic data, patterns of social exclusion are highlighted so that planning is efficient and services are targeted.

ICT use can benefit teachers and schools, allowing them to: share learning resources; communicate internally and externally, especially with parents; manage information; and support assessment and attendance.

Factors influencing the ICT experience

Access to and use of technology is not equal across socio-economic groups, being affected primarily by parental and school factors. Disadvantaged children may be less likely to have teachers who have received professional development on ICT-enabled pedagogy. Minority, poor and urban students also get less exposure to computers for higher-order learning. While advantaged people tend to use technologies developed by the business sector for their benefit, the transformational government agenda has a way to go before it delivers real benefits to those facing disadvantage.

Policy responses

The spectrum of disadvantage and exclusion begins in its mildest form as disadvantage and moves through to social exclusion and on to deep exclusion. Key policies related to community, family and education are either spread across the spectrum or targeted at particular areas and relevant to specific tiers of the Framework of Disadvantage; in general, there is good coverage.

In addition, there are generic drives to ensure quality, efficient, joined-up delivery at the local level. Local authorities have become more responsible for strategic leadership, with the requirement to prepare a delivery plan for a sustainable community strategy in consultation with local partners: a local area agreement.

Technology emerges strongly within drives to create integrated programmes. Innovation, efficiency and effectiveness are key agendas for the Transformational Government strategy. A holistic, e-enabled approach to alleviating disadvantage could be viewed as the development of system e-maturity. System e-maturity is reached when all the stakeholders deploy technology to its fullest capability in alleviating disadvantage.

Recommendations

Four opportunities exist for maximising the potential that ICT offers in enhancing education and alleviating disadvantage. These are described below.

1) Clarify how ICT-enabled projects work to achieve best practice

Evidence for the success of projects is minimal due to a lack of robust evaluations.

Recommendation: Ensure technology projects are well evaluated, particularly for their ability to alleviate disadvantage and disaffection.

Leadership, continuing professional development, strong dissemination of good practice, building social and cultural capital, and holistic coverage of the tiers within

the Framework of Disadvantage seem to be essential to the success of the application of ICT-enabled solutions, though there may be other factors also.

Recommendation: Clearly define success criteria for ICT-enabled programmes, focused on disadvantage and disaffection.

2) Enable and promote support and good practice

Good practice relating to the support of young people outside school hours and the development of e-mature schools is relatively well understood and needs to be supported. ICT access is important, but must be balanced by concerns about excessive ICT use, particularly by younger children.

Recommendation: General ICT access at home and in public spaces outside school hours must be made available to all young people undertaking homework. Teenagers should be entitled to private, flexible access to ICT, which can include extended use in schools or other public arenas.

Recommendation: Ensure that concerns about technology are thoroughly researched, especially for younger children at crucial stages of development. Ensure technology-focused learning is balanced by face-to-face interactions and time spent outdoors.

Parents need to be guided in how to support their children's use of technology for learning and soft skills development, and some may find communicating with the school authorities less intimidating online.

Recommendation: Develop toolkits for parents (which avoid learning-related jargon) and give basic information on ICT as a learning and soft-skill tool. Help parents help their children achieve useful learning outcomes using tools the children want to use (for example, games). Additionally, promote home–school links with the support of technology.

Schools, particularly those with many disadvantaged children, need adequate resources and support to continue on their journeys with technology and integrate some of the many emerging agendas.

Recommendation: Continue the ongoing work to develop e-mature schools, particularly for those schools with a high intake of disadvantaged children and young people.

Teachers should integrate children's present internet use practices into teaching.

Recommendation: Improve continuing professional development of teachers, with ICT at its core, especially the development of the pedagogy of e-learning/blended

learning and personalised learning. Ensure young people have a voice to express their wishes and aspirations for technology use and that teachers understand how to tap in to the current, creative ways in which young people use technology in their lives outside school.

Consistency of high-quality e-learning materials is important for all levels of ability and, in particular, for all socio-economic groups.

Recommendation: Put greater emphasis in the curriculum on higher-order thinking, knowledge discovery and research, rather than on IT skills. Now that BBC Jam is cancelled, provision of similar free materials is needed or the original decision should be reconsidered.

3) Scale up projects that succeed and have good business cases

The Government is often accused of having too many pilots and not scaling up projects that succeed. Government alone does not have sole responsibility for scaling up pilots, but it provides the majority of funding and can sustain the forums for partnership. Progress has been made in partnering with industry and the third sector, but there is a long way to go.

Recommendation: Establish long-term, tri-sector partnerships to support business case development for successful projects and scaled-up delivery in partnership.

4) Promote e-maturity from the local level upwards

Programmes to embed technology need to be supported until the development of critical mass creates systemic change through e-maturity.

Recommendation: Support the increased understanding of the role and potential of technology among key stakeholders at national, regional and local levels, through the sharing of case studies, information and visionary scenarios.

‘ICT proofing’ – ensuring that technology opportunities are not missed – needs to take place across all relevant areas. As different elements of a holistic, person-centred approach are recognised and constructed, strong leadership needs to build on foundations, transform processes and condense programmes so they work in accord.

Recommendation: Establish digital champions for local area agreements and local partnerships, and offer external and peer support networks for the development of cross-cutting digital strategies.

Frontline workers must work to a core script of agendas (for example, literacy, health, educational progress, good parenting). For more-excluded families, it may be

valuable to formalise the intermediary role into a specific job and create a business case.

Recommendation: For the more-disadvantaged families, a new job role of family support agent should be created in which health, education and social work agendas are mediated by one main person who links to other key staff as needed (enabled by ICT).

Chapter 1

Introduction

Young people from prosperous areas are 47% more likely to get five or more GCSE A–C grades compared to young people from deprived areas (DfES 2006a).

Around half of employees aged 25–29 without any GCSEs at grade C or above are paid less than £6.50 per hour, compared to one in 10 of those with degrees or equivalent (DETI 2005/06).

Thirty per cent of those from social class DE say they are not doing as well as they had hoped in life, compared with 12% of those from social class AB (Page 2007).

A section of unemployed, disaffected young people costs the UK economy billions of pounds per year (McNally and Telhaj 2007):

Lost productivity: £10 million a day

Jobseekers Allowance: £20 million paid out each week

Youth crime: £1 billion every year

Educational underachievement: £18 billion in lost earnings per year.

It is of concern to society – in particular to parents, teachers, Government and educational agencies – that any young person should not meet his or her full potential. When underachievement consistently manifests itself in young people of specific life circumstances, there is a moral obligation and there are economic reasons to respond. The Department for Children, Schools and Families' Children's Plan (DCSF 2007) sets out the Government's aim of closing the gap in educational achievement for disadvantaged children.

Becta commissioned this review to bring together current evidence on how disadvantage and disaffection has an impact on the lives of young people, and to ask what role ICT can play in raising young people's aspirations and educational attainment.

Education is a particular focus because educational attainment is associated with virtually every standard measure of socio-economic success. However, circumstances outside the immediate educational sphere can affect a child's capacity to achieve, and therefore we have considered the extended challenges of disadvantage both from physical and emotional perspectives.

A broad focus is taken covering the age range 0–19, with a greater emphasis on young people in schools, pupil referral units and 14–19 education. Specific

constituencies of young people (for example, young carers, black and minority ethnic young people) are discussed where illustrative or where transferable projects exist.

The topics covered in the following chapters are shown below.

Chapter 2 - In Chapter 2, statistics and literature are reviewed to highlight the current understanding of disadvantage, underachievement and disaffection. The difficulties in distinguishing cause from effect, in measuring indicators and in unravelling interrelationships between component factors are discussed. The role of educational attainment in improving life chances and the wider benefits of learning are examined. Factors that best enable an individual to benefit from education are also considered. Frameworks are proposed to shape understanding at both the societal and individual levels.

Chapter 3 - In Chapter 3, the role of technology in the lives of young people is examined. Differences among socio-economic groupings are highlighted, and the lack of consistency in research to evidence positive impacts is discussed. The use of ICT by those supporting young people is also reviewed, leading to a discussion of holistic approaches to the use of ICT in alleviating disadvantage and raising aspirations.

Chapter 4 - In Chapter 4, responses to the challenges set by the digital age are reviewed, with particular focus on government policy. Policies are mapped within the Framework of Disadvantage and their relevance to the severity of disadvantage/exclusion being experienced is given. Conclusions are drawn about gaps in activity and ways in which Government can strengthen holistic approaches.

Chapter 5 - Chapter 5 draws together the analyses into final conclusions and a set of recommendations for action.

Chapter 2

Disadvantaged young people and underachievement

This chapter reviews the evidence of why children are disadvantaged and examines the role education has to play in improving life chances. By understanding the challenges that exist, it is possible to focus on what role technology has in supporting solutions.

Addressing the links between attainment and life chances and the effects of disadvantage and disaffection requires:

- a definition of key concepts and illustration of the scale of the issues
- an examination of the interrelationships between different causal factors
- a description of the contexts that best enable children to benefit from education.

2.1 Disadvantage and social exclusion

Disadvantage is any life circumstance which negatively affects life quality and life chances. Disadvantageous factors include deprived neighbourhoods, low income and poor health.

Families and communities who are disadvantaged by socio-economic factors have fewer resources in the form of material goods, knowledge and networks.

There are several socio-economic classification systems, which take into account factors such as income and education (Office for National Statistics 2005). Much of the research reviewed in this report refers to the disadvantage of those from lower socio-economic groups. Roughly 45% of the population under 65 are from these working class or unemployed backgrounds (Market Research Society 2004).

The term 'social exclusion' is widely used these days to indicate more extensive disadvantage, although it is difficult to define and has different degrees of severity. It is considered to occur when someone suffers three or more disadvantages, and affects an estimated 22% of the population (11.3 million people) (Social Exclusion Task Force 2007).

‘Social exclusion is a complex and multi-dimensional process. It involves the lack or denial of resources, rights, goods and services, and the inability to participate in the normal relationships and activities, available to the majority of people in a society, whether in economic, social, cultural or political arenas. It affects both the quality of life of individuals and the equity and cohesion of society as a whole.

Social exclusion is about more than income poverty. It is a short-hand term for what can happen when people or areas have a combination of linked problems, such as unemployment, discrimination, poor skills, low incomes, poor housing, high crime and family breakdown. These problems are linked and mutually reinforcing. Social exclusion is an extreme consequence of what happens when people don't get a fair deal throughout their lives, often because of disadvantage they face at birth, and this disadvantaged can be transmitted from one generation to the next.’ Social Exclusion Task Force (2007) Context for social exclusion work

Miliband (2006) recommends that social exclusion is viewed in three ways: wide, concentrated and deep exclusion.

Wide exclusion refers to the large number of people excluded on a single or small number of indicator(s).

Concentrated exclusion refers to the geographic concentration of disadvantage.

Deep exclusion refers to disadvantage on multiple, overlapping dimensions. Two-and-a-half per cent of the population (1.3 million people) are deeply excluded and are a particularly high cost to the state (£58 billion per year; Social Exclusion Task Force 2007).

Evidence (Social Exclusion Task Force 2006) suggests that the following groups and individuals have the most severe challenges, with disadvantage embedded throughout their lives and between generations:

- Looked-after children. A quarter of the prison population spent their childhoods in care; it costs about £100,000 a year to keep a child in residential care.
- Teenage mothers. There are around 40,000 teenage conceptions every year, and the UK has one of the highest rates in Europe. Nearly 40% of teenage mothers leave school with no qualifications.
- The chronically mentally ill. Over 900,000 adults in England claim sickness and disability benefits for mental health conditions, and it is estimated to cost the country over £77 billion a year through the costs of care, economic losses and premature death
- Families with complex problems. There are an estimated 50,000 problem families in the UK who are a particularly high cost to the state. The most

serious problem families – whose members commit crime, live on benefits and have poor health – cost the state an estimated £250,000 a year each.

For this report, the full spectrum of disadvantage is considered. However, research and case studies tend to focus on the extreme cases.

2.1.1 Domains and statistics

There are 10 important domains within disadvantage that have been defined across three areas:

Resources

Material/economic

Public and private services

Social capital

Participation

Economic

Social

Culture, education and skills

Political and civic

Quality of life

Health and well-being

Living environment

Crime and harm

These are illustrated with current statistics (see p17, Table 1) to indicate the scale of the problems.

2.1.2 Cause and effect

Understanding why young people and their families are disadvantaged is important. However, demonstrating the relationships between different components and distinguishing cause from effect is challenging.

While there is overwhelming evidence that poverty is a major risk factor in almost all domains of exclusion (Levitas et al. 2007), other domains of disadvantage are often both outcomes and risk factors. This includes educational achievement levels, as discussed in Section 2.4.

Up to the age of seven, social and family context are the strongest measures to indicate outcomes in adult life, such as the likelihood of employment. From the age of seven, educational attainment is often the best indicator of outcomes in adult life (Feinstein and Sabates 2006a). However, it is rarely possible to say that a particular risk factor will lead to particular features of adult deprivation.

Bradshaw et al. (2004) stress the importance of distinguishing between macro drivers that increase overall levels of social exclusion (for example, unemployment) and the drivers at an individual level (such as an individual's level of self-belief).

It is also possible to distinguish between risk factors which signal the greater vulnerability of a category of individuals (for example, low income) and triggers, which have a direct causal impact, for example, low literacy skills, which inevitably produce social exclusion when systems are not in place for people to access support services through means that do not require literacy skills.

The complex interrelationships between different components of disadvantage lead to two phenomena that are of concern:

- Path to failure in which the disadvantages that an individual faces are usually apparent in early life and persist long into adulthood and old age.
- Cycles of disadvantage when deprivation in one generation is likely to pass down to the next. For example, the daughter of a teenage mother is twice as likely as the daughter of an older mother to become pregnant in her teenage years (Social Exclusion Task Force 2006).

2.1.3 Measurement

Establishing indices to measure the depth and breadth of problems provides a way of evaluating the success of programmes designed to alleviate disadvantage and social exclusion. Although several indices relating to disadvantage and social exclusion have been developed, some are limited; they tend to be principally descriptive, do not allow interrelated aspects to be readily analysed or are inconsistent in the definitions of social exclusion and the indicators used.

In response to the need for an appropriate index, the Bristol Social Exclusion Matrix (B-SEM) has been recently developed (Levitas et al. 2007). This is a matrix of domains and topic areas, looking across four stages of life: childhood, youth, working age and later life. Although the B-SEM helps to frame the indicators of social

exclusion, to be a useful tool, collations of data are needed to populate this matrix over time. Two major sources¹ may be used: social surveys and administrative data sources.

The UK Government commissions approximately 20 social surveys each year. However, some of the people most at risk of social exclusion, such as some children in local authority care or in young offenders' institutions, are omitted from household surveys. Other groups are under-represented, such as some minority ethnic groups and those on low incomes.

Different government departments are sources of a huge range of data. It has been recommended that government departments should be audited as sources of research data (Jones and Elias 2006, Pleace and Bretherton 2006). This does, however, raise practical and technical difficulties: the quality of the data needs to be clear, and willingness to give personal information may be reduced if that information is to be shared (Hall et al. 2006, Pleace and Bretherton 2006).

Public service agreements (PSAs) are designed to tackle the issues around disadvantage. They are three-year agreements negotiated between each of the main departments and HM Treasury during the spending review process. The agreements set out a department's high-level aim, priority objectives and key outcome-based performance targets. (Public policy is discussed in more detail in chapter 4.)

Table 1, on the next page, shows a raft of indicative statistics along with relevant PSAs.

¹ Existing surveys include: Families and Children Study [http://www.dwp.gov.uk/asd/asd5/facs/facs_intro.asp] British Household Panel Survey (BHPS); English Longitudinal Study of Ageing (ELSA); General Household Survey (GHS); Millennium Survey of Poverty and Social Exclusion (PSE Survey); Avon Longitudinal Study of Parents and Children (ALSPAC), and cohort studies initiated in 1958, 1970 and 2000. The Longitudinal Study of Young People (LSYPE) will produce meaningful results in a few years' time, and the UK Longitudinal Household Survey (UKLHS) is under construction.

Disadvantage	Statistics for children and families ²	Relevant PSAs (lead department)
Resources		
1. Material/economic	<p>In 2004–05, 3.4 million children were living in low-income households (below 60% of median income) after deducting housing costs. This is 0.8 million fewer than in 1996–97, when levels were at their highest.</p> <p>Children are still much more likely to live in low-income households than the population as a whole: 27% compared to 20%.</p> <p>Half of all lone-parent families are on low incomes compared with one in five couples with children. Just under half of all the children in low-income households are in lone-parent households.</p> <p>Half of the children in low-income households live in workless households, and the other half live in households where at least one the adults is in paid work.</p> <p>Four-fifths of the lone parents on low incomes are not working. In contrast, two-thirds of the couples with children on low incomes do have someone in paid work. The net result is that most of the</p>	<p>Reducing the proportion of children in workless households by 5% between spring 2005 and spring 2008 (Department for Work and Pensions; DWP).</p> <p>Increasing the proportion of parents on Income Support and income-based Jobseeker's Allowance who receive maintenance for their children by 65% by March 2008 (DWP).</p>

² From The Poverty Site [<http://www.poverty.org.uk>] and sub-references.

	<p>children in low-income households are either in couple households in which someone is in paid work or in workless lone-parent households.</p> <p>For working-age households, the Government's mid-point estimate is that 11% of eligible households did not claim housing benefit in 2004–05 compared with 4% in 1997–98.</p> <p>A sixth of all households in rented accommodation are living in income poverty, but are not in receipt of housing benefit (and thus have to pay full rent).</p>	
2. Public and private services	<p>Although public resources may be targeted at disadvantaged communities, they often do not reach the intended customer, and the middle classes have more skills to draw down further resources. The increasing use of the internet to deliver cheaper services, and the lack of internet use by many disadvantaged people, compounds this problem.</p> <p>Eighty-eight per cent of middle class children but only 61% of working class children have accessed the internet at home; 86% of children in areas of low deprivation in England have used the internet on a computer at home compared with 66% in areas of high deprivation.</p>	<p>By 2008, improve the effectiveness and efficiency of local government in leading and delivering services to all communities (Office of the Deputy Prime Minister; ODPM).</p>

3. Social capital	Disadvantaged communities can include strong social connections, although often disjointedness is a feature of a deprived area, and social networks that exist can be limited in scope. Social capital can be negative if it includes the formation of violent or criminal gangs, but generally it is positive.	Increase voluntary and community engagement, especially among those at risk of social exclusion (Home Office).
Participation		
4. Economic	<p>Around 1.8 million children live in workless households, down from 2.4 million a decade ago. This is 16% of all children.</p> <p>The UK has a higher proportion of its children living in workless households than any other EU country. This proportion is one-and-a-half times the EU average and more than twice that in many of other countries.</p>	<p>Increase the stock of Ofsted-registered childcare by 10% and increase the take-up of formal childcare by lower-income working families by 50% (DWP and Department for Education and Skills, DfES).</p> <p>Halve the number of children in relative low-income households between 1998 and 1999 and 2010 and 2011 (HM Treasury and DWP).</p>
5. Social	Social participation is defined as participation in common social activities, such as carrying out normatively defined roles as parents/grandparents/children or participating in local sporting teams. There may or may not be an overlap with other areas such as work, political or	Build community cohesion (Home Office).

	<p>cultural activity, depending on whether these areas offer high-quality social interaction.</p> <p>Nine million adults who are not in paid work or full-time education do not participate in any social, political, cultural or community organisations.</p>	
6. Culture, education and skills	<p>One in four 19-year-olds still fails to achieve a basic level of qualification, and up to one in 10 has no qualifications at all.</p> <p>The lower a young adult's qualifications, the more likely he or she is to be in low-paid work. So, for example, around half of employees aged 25–29 without any GCSEs at grade C or above are paid less than £6.50 per hour, compared with one in 10 of those with degrees or equivalent.</p> <p>Around 10,000 pupils are permanently excluded from school each year. The number of permanent exclusions remained broadly unchanged over the last five years after falling sharply in the late 1990s.</p> <p>The rate of permanent exclusion is much lower in Scotland than elsewhere: four per 10,000 pupils each year compared to more than 12 in England and 10 in Wales.</p> <p>Despite substantial reductions in recent years, black Caribbean pupils are still three times as likely to be excluded from school as white pupils.</p>	<p>Increase the proportion of 19-year-olds who achieve at least level 2 (GCSE grades A–C equivalent) by 5% by 2008, and increase the proportion of young people who achieve level 3 (A-level and equivalents) (DfES).</p> <p>Reduce the proportion of young people not in education, employment or training by 2% by 2010 (DfES).</p> <p>Improve levels of school attendance so that, by 2008, school absence is reduced by 8% compared with the figure in 2003 (DfES).</p> <p>A new PSA on reducing the attainment gap is set to be announced.</p>

7. Political and civic	<p>In the 2005 UK general election, only 37% of 18- to 24-year-olds voted (Electoral Commission 2005).</p> <p>Some researchers point to considerable civic activism among the young, alongside their disenchantment from the formal political system.</p> <p>Livingstone and Bober (2005) found that when it comes to actively seeking out information about political, environmental or human rights or other participatory issues, over half (54%) of 12- to 19-year-olds who go online at least once a week have visited at least one website on these subjects, but that girls, the middle class and older teenagers tend to visit a broader range of civic sites.</p>	
Quality of life		
8. Health and well-being	<p>The use of illegal drugs by young adults is widespread. In 2000, 16% of 16- to 24-year-olds had used illegal drugs in the last month, one in four had used them in the previous year, and one in two had used them at some time.</p> <p>Experimentation with illegal drugs does not appear to vary much between social groups, but addiction and regular use are more likely to develop among young people from lower social classes.</p> <p>Although the use of opiates represents just a tiny</p>	<p>Increase the participation of problem drug users in drug treatment programmes by 100% by 2008, and increase year on year the proportion of users successfully sustaining or completing treatment programmes (Department of Health; DH).</p> <p>Reduce the harm caused by illegal drugs, including substantially increasing the number of drug-misusing offenders entering treatment through the criminal</p>

	<p>fraction of drug use among young adults, of the order of 1%, heroin remains the most frequently reported main drug of misuse for users starting treatment among this population group. Heroin use is more prevalent among disadvantaged groups.</p> <p>Addiction to opiates has serious health consequences, and drug addicts are at increased risk of suicide and of developing mental health difficulties. Research also points out the link between opiates and criminal activity.</p> <p>In 2005, there were around 3,700 births to girls who conceived before the age of 16, and 4,900 abortions.</p> <p>Teenage motherhood is eight times as common among those from manual social backgrounds as those from managerial and professional backgrounds.</p>	<p>justice system (Home Office).</p> <p>Reduce the under-18 conception rate by 50% by 2010 as part of a broader strategy to improve sexual health (DfES and DH).</p>
9. Living environment	<p>Half of all the children in England who are eligible for free school meals are concentrated in a fifth of the schools.</p> <p>Three-quarters of all local education primary and nursery schools in inner London have a high proportion of their children eligible for free school meals. This is a much higher proportion than in any</p>	<p>By 2010, bring all social housing to a decent condition, with most of this improvement taking place in deprived areas. For vulnerable households in the private sector, including families with children, increase the proportion who live in homes that are in a decent condition</p>

	<p>other region.</p> <p>A tenth of households in the poorest fifth of the population are without central heating.</p> <p>In 2005, 150,000 households (excluding the intentionally homeless) in England were officially recognised as newly homeless by their local authorities.</p> <p>One-third of households officially recognised as homeless have dependent children.</p> <p>Five per cent of people and 2.5% of households live in overcrowded conditions.</p>	<p>(Department for Communities and Local Government; DCLG).</p> <p>Eliminate fuel poverty in vulnerable households in England by 2010 in line with the Government's Fuel Poverty Strategy objective jointly held between the department for Trade and Industry and Department for the Environment, Food and Rural Affairs (DTI and DEFRA).</p> <p>Achieve a better balance between housing availability and the demand for housing, including improving affordability in all English regions while protecting valuable countryside around towns, cities and in the green belt, and ensuring the sustainability of towns and cities (DCLG).</p>
10. Crime, harm and criminalisation	<p>The number of children aged 15–16 who are in custody fell sharply in 2003 after rising throughout the previous decade. Since then, the number has been rising again. In 2005, around 3,000 young people aged 10–16 were in custody.</p> <p>The number of children found guilty or cautioned for indictable offences has been rising in the last few years, with 120,000 children aged 10–17 found guilty or cautioned in 2005.</p>	<p>Reduce crime by 15%, and further in high crime areas, by 2007–08 (Home Office).</p> <p>Improve the delivery of justice by increasing the number of crimes for which an offender is brought to justice to 1.25 million by 2007–08 (Home Office).</p>

	<p>Three times as many boys are found guilty or cautioned as girls.</p> <p>Seventy thousand school-age offenders enter the youth justice system every year.</p> <p>More than 9,000 18- to 20-year-olds were in prison in 2006 (McNally and Telhaj 2007).</p>	
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Table 1 Statistics and measures of disadvantage; PSA targets and departmental responsibilities

2.2 Personal and community resources

Many individuals move beyond adversity, and there are countless examples of people developing personal strengths as a result of adversity and building on the real positive aspects that also exist within less advantaged communities.

Real resources are available to privileged people, built into society. These are described as cultural and social capital and are established within a social field.³ Cultural and social capitals enable individuals to make progress within their lives and increase the benefits available to them. They are defined in more detail below.

The interplay of social and cultural capital and the emergence of field contribute to maintain the status quo and therefore must be tackled as part of any strategy to alleviate disadvantage.

Field expresses the set of rules and logic in which a competitive system of social relations takes place. Local fields exist, and people feel most comfortable in the ones they are used to. The cultural capital held by working class individuals can assist them in surviving the environment of the factory floor, but would hold them back in a middle class educational environment, and vice versa.

There are different types of social and cultural capital, which occur in different amounts. A teenager who is part of a gang within a tough estate may have large amounts of capital that enhance the teenager's ability to perform illegal activities. Clearly, such capital and such a field of operation would be viewed as undesirable; the aim would be to enhance the social and cultural capital that would enable the teenager to benefit and function in mainstream society. It would be possible to seek to change the teenager's field through programmes of regeneration.

2.2.1 Cultural capital: knowledge and socialisation

Cultural capital includes the knowledge of facts and the interpretation of information at a conscious and subconscious level. The socialisation process absorbs cues, including imagery and role models from the world around, which gives a person a sense of his or her place in the world.

Cultural capital affects how people view and engage with the world and speak of the personal capacity they have to make use of the financial and social resources that surround them. A person socialised in a working class way, for example, might view university education as a good aspiration, but believe it is expensive and beyond his or her capabilities, and see university as a place where he or she will not feel comfortable.

³ For more information on these concepts, see Bourdieu and Richardson (1986).

2.2.2 Social capital: supportive connections between people

Social capital is a measure of the networks within a community which give a person access to useful information and opportunities.

Strong social ties provide personal support at an emotional, spiritual and physical level; for example, friends and family that care for a person who is ill and give encouragement when someone faces a challenge.

Weak social ties are the larger networks of acquaintances and social/community groups that a person has contact with. These networks might provide information on how to get cheap goods and services or recommend an opportunity to get a job.

Networks can be within a geographic community but also within a wider community of interest; for example, people with shared interests in a given hobby, experience of a particular illness, or common political opinions.

2.3 Disaffection

While disadvantage can be understood as a series of external factors which affect the life quality and life chances of an individual, disaffection is the resulting internal emotive change for the individual. A disaffected young person feels estranged from the surrounding social norms, particularly education. Such young people are likely to lack motivation and have behavioural problems including truancy and antisocial behaviour.

According to research by Farrington (1992), the sense of failure and feelings of alienation – an internalised lack of self-worth – rather than the underachievement itself, lead to antisocial behaviour and drug abuse.

2.3.1 Antisocial behaviour and crime

Disaffected young people can be both the perpetrators and victims of antisocial behaviour. Antisocial behaviour prevents neighbourhood renewal and creates a climate in which more serious crime can establish. It is estimated to cost the British taxpayer £3.4 billion a year.⁴

A variety of factors increase the risk of antisocial behaviour. The more of these which are present, the more likely someone is to become involved in antisocial behaviour. The factors are:

⁴ Anti-social behaviour' – Respect [<http://www.respect.gov.uk/article.aspx?id=9066>].

- Poor parenting skills, a weak parent–child relationship and a family history of problem behaviour
- Living in deprived areas where there is disorder and neglect; lack of community spirit; living in areas with an already high level of antisocial behaviour
- Drug and alcohol abuse, alienation and early involvement in antisocial behaviour
- Truancy, exclusion and unchallenged bad behaviour.

Truancy, or non-attendance at school for reasons that would not be officially sanctioned, is a common feature of disaffected young people. Responsibility for the problem has been traditionally located with the truants and their families, though the true picture is more complex (Southwell 2006). Having researched the perspectives of truants (as well as having been a persistent truant himself), Southwell makes the case for viewing truancy as a key indicator of unmet educational needs.

Exclusion from school, as a sanction against a persistently disruptive pupil, can be permanent or fixed term. Excluded students in pupil referral units cost double the amount to be given one-10th of the education they could get in mainstream school (Parsons 1996).

Evidence on the background of those excluded indicates that 61% come from unemployed households, and young people in care are on average 10% more likely to be excluded than their peers (Social Exclusion Unit 1998). High proportions are from disturbed or disrupted home contexts, including family break up, bereavement, illness, alcoholism and abuse (Ofsted 1996). The levels of and context for exclusion of Afro-Caribbean pupils point to institutionalised racism within the education sector.⁵

Evidence also suggests that propensity to criminality can be identified early through information about a young person's family background and environment (Feinstein and Sabates 2006a). Fergusson et al. (2004) examined indices of socio-economic deprivation and associations with later involvement in crime. In particular, relational

⁵ From Sparkes (1999): 'In 1996/97 the permanent exclusion rate for white pupils was 0.18%. However the rates for Black Caribbean, Black African and Black Other were 0.76%, 0.30% and 0.70% respectively (DfEE, 1998). Although the reasons for this are little understood, research has highlighted tension and conflict in relations between white teachers and Afro Caribbean pupils as a plausible explanation (Gipps and Gilborn, 1996). This is thought to explain the differences between excluded Afro Caribbean pupils and other excludees. Although the majority of excluded pupils were found to be evenly divided between average and below average ability, Afro Caribbean pupils who were excluded were more likely to have above or average ability but were generally described as under performing. They do not usually show disruptive behaviour from early in their school careers and show less evidence of deep-seated trauma.'

factors (adverse family, school and peer environments) combined to increase individual susceptibility to crime.

Targeting might, however, stigmatise young people at risk (Penna 2005). Furthermore, targeting schools is likely to be more cost-effective than assessing individual children (McCarthy et al. 2004). Moreover, as Sutton et al. (2004) note, 'any notion that better screening can enable policy makers to identify young children destined to join the 5% of offenders responsible for 50–60% of crime is fanciful. Even if there were no ethical objections to putting 'potential delinquent' labels round the necks of young children, there would continue to be statistical barriers.'

The diagram below depicting the continuity of antisocial behaviour (Figure 1) shows substantial flows out of as well as in to the pool of children who develop chronic conduct problems.

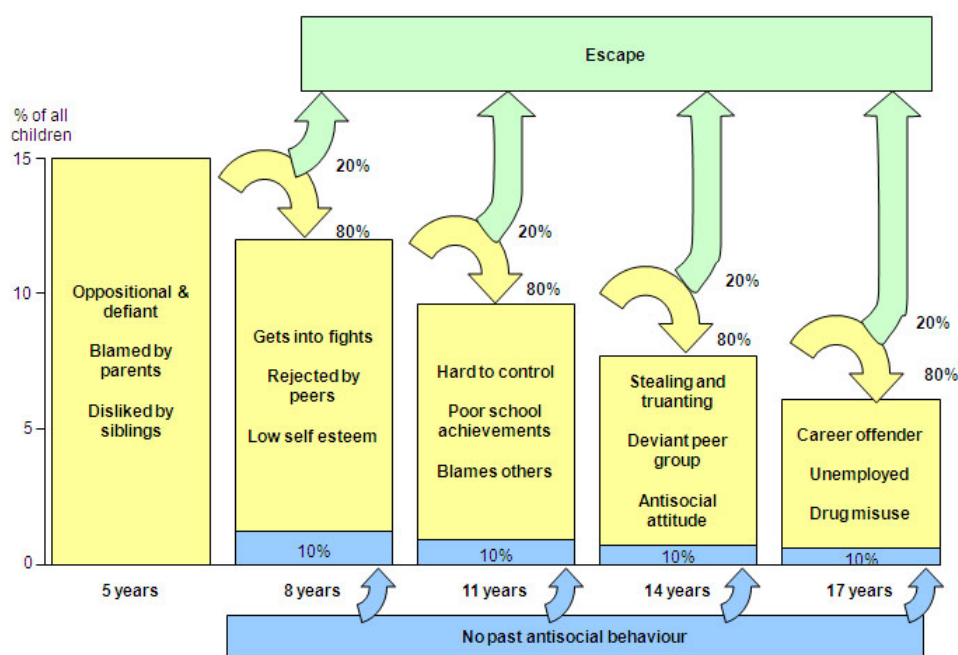


Figure 1 Continuity of antisocial behaviour from age 5 to 17 (Scott 2002)

2.4 Educational attainment

2.4.1 Educational attainment and disadvantage

Educational attainment and disadvantage are strongly interconnected. It is important to understand the interrelationship between the two and to show whether disadvantaged children are also underachieving.

Low attainment levels are significant

The Government has set a target for 60% of those aged 16 to achieve the equivalent of five GCSEs at grades A*–C, and, in all schools, for at least 30% of pupils to achieve this standard (by 2008).

According to recent data from the Department of Enterprise, Trade and Investment 2006 (from the Office of National Statistics and DfES releases):

- Most 19-year-olds without NVQ2 or its academic equivalent (for example, five or more good GCSEs) still lack such qualifications at age 25.
- Twenty-five per cent of 19-year-olds still fail to achieve a basic level of qualification, and up to 10% have no qualifications at all.
- Twenty-two per cent of pupils (150,000) aged 16 obtained no GCSEs above a grade D.
- Ten per cent of pupils (75,000) aged 16 obtained fewer than five GCSEs.
- Three per cent of pupils (25,000) aged 16 got no GCSEs at all.

The links between educational attainment and disadvantage

Receiving free school meals is an indicator of disadvantage. Measures clearly show that disadvantaged young people are more often low-attainers; for example:

- Eleven-year-old pupils receiving free school meals are twice as likely not to achieve basic standards in literacy and numeracy as other 11-year-old pupils.
- All free-school-meals pupils have lower attainment than non-free-school-meals pupils; free-school-meals pupils who also live in a disadvantaged area have the lowest levels of attainment of all.
- Non-free-school-meals pupils in disadvantaged areas have lower attainment than non-free-school-meals in other areas.
- Within free-school-meals groupings, the higher the social class the better the attainment (DfES 2006a).⁶

Educational attainment has been identified as a key factor in either escaping from the cycles of exclusion or contributing to them (Sparkes 1999, Feinstein and Bynner 2004, National Literacy Trust 2005, Blanden et al. 2006, Machin and McNally 2006).

⁶ It is worth noting that nearly 50% of students getting free school meals are not in deprived schools or disadvantaged areas, thus area-based targeting will miss them (DfES 2006a).

Disadvantage can contribute to a poor education

A whole range of background characteristics from birth up to the age of 33 (with the strongest effect taking place before age 11) can explain literacy and numeracy scores at age 37. Bynner (2000) groups background factors under four broad headings:

- Economic factors: for example, poor living conditions, rented social housing in economically rundown areas and low family income
- Child factors: for example, poor early cognitive development, behavioural problems and low self-esteem
- Family factors: for example, low aspirations for child and lack of interest, troubled relationships within family and lack of adult role models for child
- School factors: for example, weak home–school relations, low teacher commitment to child and poor monitoring of children’s progress.

However, it is worth noting that individual life experiences, such as in employment and leisure, also contribute and are not predictable from background factors (Bynner 2000).

Although prior attainment is a significant factor in A-level participation rates, Erikson et al. (2005) estimate that 25% of A-level participation is due to a higher propensity to participate among the higher compared with lower classes. This can be viewed as a feature of cultural and social capital.

Unsurprisingly, absence from school has a significant effect on attainment. High levels of absence due to physical illness are related to low levels of educational attainment (Rutter and Madge 1976, quoted in Sparkes 1999).

Absence can be due to truancy and a number of other factors. A child may have caring duties or take on illegal employment to boost family incomes. Surveys indicate that such absence is often condoned by family members/parents who benefit from the child’s work (O’Keefe 1994).

Disadvantaged parents may be less able to manage illness in young people. The Office for Standards in Education (Ofsted) undertook a review in 1993 and noted a prevalence of health problems that did not always receive prompt treatment among disadvantaged young people.

The links between educational attainment and health are recognised by school-based health interventions such as breakfast clubs, and local studies have shown positive effects on attainment, attendance and bullying (McInnes and Toft 1998).

Poor education can compound disadvantage

Strong evidence demonstrates that having poor basic skills has an impact on adult outcomes, particularly for those at risk from other disadvantages. Once a young person has begun to fail in school, the likelihood of further failure is increased.

At age 16, over half of boys with poor reading skills think school is a waste of time, and nearly four-fifths want to leave school as soon as possible (National Literacy Trust 2005).

Education can reduce the risk of further disadvantage

Locher and Moretti (2004, quoted in McNally and Telhaj 2007) have shown in US research that completing high school reduces the probability of going to prison by 0.76% for white people and 3.4% for black people.

Currie and Moretti (2003), also quoted in McNally and Telhaj (2007), have estimated that the increase in education of women in the USA in the 1960s and 70s reduced the incidence of low birth weight by about 10% and reduced the incidence of pre-term birth by 6% through subsequent healthier approaches to life. A 10% higher birth weight has been shown to raise earnings by about 1% in Norway (Black et al. 2006).

Education can increase the chance of positive outcomes

Machin and McNally (2006) found strong evidence that education in childhood improves, for example, the likelihood of employment and level of wages,⁷ while adult learning has a generally mixed effect on life chances, but can increase income. The research also showed that returns from investment in education are especially high for vulnerable groups, such as those likely to leave school early and those (especially men) from disadvantaged backgrounds. Job prospects can also be improved by more basic vocational qualifications.

The Centre for Research on the Wider Benefits of Learning (DfES 2006b) undertook a seven-year research programme and found that, as well as influencing the obvious outcomes (for example, qualifications and career), learning can positively affect health and well-being, attitudes and behaviour. The wider benefits of learning can be grouped into three categories.

- Personal resources and skills. Personal resources, skills and self-belief can be developed through education. Learning can enhance people's

⁷ Machin and McNally (2006) consider this to be uncontroversial and so do not seek to explain a correlation.

ability to deal with adversity and to make informed decisions about the consequences of actions. These areas could be defined as increases in cultural capital.

- Social interactions. Through learning, a person can access other individuals and wider social groups, whether from similar or different socio-economic backgrounds. This can be viewed as increasing useful social capital, which also promotes social cohesion and community involvement.
- Qualifications. Although unaccredited learning can be valuable, learning that leads to qualifications may bring benefits that are due to both the accreditation itself and to the wider signals that ownership of such an accreditation affords. This is in fact another form of cultural capital.

Interestingly, Sparkes (1999) suggests that schools' (and in particular teachers') roles in imparting soft skills to pupils may be just as important for pupils' subsequent employability as academic attainment. Soft skills include abilities such as team working, networking, negotiating and problem-solving, which are forms of social and cultural capital. This view is echoed by some educationalists and new-media researchers who suggest that young people using new technologies socially may learn these economically valuable soft skills (Shaffer et al. 2005, Jenkins et al. 2006, Green and Hannon 2007).

Unfortunately, as Sparkes points out, there is limited research on soft skills: 'soft skills have yet to be adequately defined and their importance, relative to formal qualifications, for different groups of people and at different stages in the life cycle is unknown.'

Attainment versus underachievement; the effects of disadvantage

How much variation in attainment can be ascribed to innate intelligence is an area of much academic debate (Sparkes 1999). Underachievement is the attainment of results lower than those possible, based on the pupil's ability.

Underachievement can therefore only be measured by knowing how present achievement compares with true potential. Both present achievement and true potential are difficult things to measure (Smith 2003). It is, however, very widely accepted that disadvantage contributes to underachievement, since high proportions of disadvantaged children underachieve regardless of IQ (Rutter and Madge 1976, quoted in Sparkes 1999).

Policies might focus directly on enhancing attainment by disadvantaged young people, or they may look at tackling issues that indirectly affect attainment, such as attendance and motivation. The elements that optimise a pupil's chances of benefiting from the education available to them are examined next.

2.4.2 Enhancing the value of education

Specific factors in the home and school environment tend to support young people in gaining maximum benefits from education. The impact of education depends on the quality and nature of the experience, its appropriateness to the individual, and the individual's engagement with learning, as well as the quantity of education experienced and qualifications achieved (DfES 2006b). Above all, parental involvement is crucial for supporting the education of children (Sparkes 1999, National Literacy Trust 2005).

Parental involvement

Research into parental involvement found that good parenting within the home (rather than other forms of parental involvement, such as attending parents evenings) has a significant positive effect on children's achievement (Desforges and Abouchaar 2003).

Good parenting, according to the authors' review of the literature, includes provision of a secure and stable environment, intellectual stimulation, parent-child discussion, good models of constructive social and educational values, and high aspirations relating to personal fulfilment and good citizenship.

Variations in the quality of schools have a much less significant impact compared with parental involvement, in the primary age range.

The authors found that the extent and form of parental involvement is strongly influenced by family social class, maternal level of education, material deprivation, maternal psycho-social health and single parent status and, to a lesser degree, by family ethnicity. This may relate to both a lack of capacity to undertake good parenting and a lack of consensus about what that involves.

Parents who say they have not been involved in the education of their children in the last year (for example, by helping with homework or attending a parents evening) are 13% from social class AB, 17% from C1/C2 and 23% from social class DE (Page 2007).

The expectations of parents matter too, because a child picks up on these important social cues. Parents who believe their children will peak at GCSE are 4% from social class AB, 15% from C1/C2 and 25% from social class DE. Those expecting that their child will get a job needing a degree are 48% from social class AB, 31% from C1, 15% from C2 and 21% from social class DE (Page 2007). This is despite the fact that 68% of parents from social classes DE believe that their children have more chances in life than they did (compared to 50% of parents from social class AB).

Focus group work showed that parents' expectations for their children are framed by their own spheres of reference, and that young people from disadvantaged backgrounds often lack encouragement and sometimes their aspirations are belittled ("I wanted to be a window dresser, my dad said 'you'll end up washing windows'." (Page 2007)).

A parent may want and intend to fully support a child, but may lack the knowledge, awareness and support (social and cultural capital) to do this effectively. Parents may not be aware of what support is available and where to find it; they may not have the personal knowledge regarding what action would be effective (DfES 2006a).

Bynner (2000) comments that families are required to prepare and support their children in line with the changing expectations of the education system, and while many middle class families have little difficulty in keeping up with what the system needs from them, many less advantaged families have great difficulty in doing so.

An increase in parental income has been linked to increased success of their offspring. However, the increase in financial capital is not believed to be the cause of the improved outcomes, rather the associated increases in social and cultural capital as income increases (Blanden et al. 2006).

Laying the right foundations, before school, can be important. This can include attending nursery school or playgroup, and other activities such as being read to, which contribute to primary education (Osborn and Millbank 1987, Bynner and Steedman 1995).

Statistical analysis has demonstrated that there is a relationship between the poor education of mothers and the subsequent education of their children. However, the mothers' abilities and aspirations are key, rather than their actual education (Feinstein and Duckworth 2006, Feinstein and Sabates 2006b).

How much a mother praises her offspring (aged between 13 and 15) has been demonstrated to have a powerful effect on GCSE attainment. Maternal praise increases the odds of achieving high grades at GCSE by a factor of four and reduces the odds of achieving low grades by 72% (O'Brien and Jones 1999).

Given the robust body of evidence confirming the importance of parental involvement, it is clearly important to support parents. There have been many programmes to this end; however, there is a need for a more methodological appraisal of current practice. Desforges and Abouchaar (2003) say 'Research on interventions to promote parental involvement reveals a large number of approaches ranging from parent training programmes, through initiatives to enhance home school links and on to programmes of family and community education. Evaluations

of this very extensive activity reveal there is a perceived increased need and an evident increase in demand for such support. High levels of creativity and commitment are evident amongst providers and high levels of appreciation are recorded by clients. Unfortunately the evaluations of interventions are so technically weak that it is impossible on the basis of publicly available evidence to describe the scale of the impact on pupils' achievement. This is not to say the activity does not work.'

2.4.3 School environment

The school environment can make a difference to children, but their experiences are not all positive, and this increases with disadvantage. Of those from social class DE, 17% said they found school a negative experience overall (compared to 13% of C1/C2 and 8% of AB).

Quality of teaching and resources make a difference

The Rose Review (Johnston and Watson 2005), for example, highlighted how the use of phonics to support reading tuition, and its quality of delivery, makes a significant difference for disadvantaged children (DfES 2006a). Although there is general consensus that phonics is the best way to teach reading, there is still much debate on how phonics should be taught. The review examines good practice, ensuring teachers are on board, monitoring children's development, and funding.

A number of specific interventions in the school system have been suggested to better enable schools to serve young people who are disadvantaged and/or at risk of social exclusion. Sparkes suggests (based on a small number of studies) that increased spending on schools and smaller class sizes may have a positive effect on educational attainment in the UK, and cites a US study that found particular benefits for minority students when taught in smaller classes. She acknowledges that prior statistical analyses have found either no relationship or a negative (disadvantageous) relationship in these cases, but suggests that this is mainly because increased resources tend to be focused on schools with more disadvantaged students (Sparkes 1999).

More recent analyses show that, at Key Stage 3, £100 of extra spending per pupil, per year, for three years increases attainment of pupils receiving free school meals: attainment in maths increased by 9% on average and science by 11% (DfES 2006a).

Classroom organisation was also found to make a difference to disadvantaged pupils, but it mattered how classroom organisation was implemented as part of tailored learning. The DfES is currently examining this issue further.

Evidence of the effects of class sizes is mixed, though for reception classes, stronger evidence is available, showing increased literacy for low attainers on reducing class sizes from 25 to 15 (DfES 2006a).

Personalised interventions can benefit those with literacy difficulties

The 'reading recovery' programme, which includes one-to-one teaching, has been very effective in tackling literacy issues. Forty per cent of pupils on reading recovery programmes are also in receipt of free school meals and showed little or no progress in prior literacy work. After a 20-week programme, 83% of these pupils were lifted to average levels of literacy, and the remaining 17% had benefited to some extent. Benefits appear to be sustained, since more than 60% went on to achieve level 2 at Key Stage 1 in reading and writing.

Learners engaged in study support (voluntary learning activities out of school hours) achieved more than predicted by, on average, 3.5 grades, with those eligible for free school meals benefiting slightly more, and minority ethnic groups benefiting significantly more (DfES 2006a).

2.4.4 Wider social relationships

A recent Joseph Rowntree Foundation report (2007) found that 'Just 14% of variation in individuals' performance is accounted for by school quality. Most variation is explained by other factors, underlining the need to look at the range of children's experiences, inside and outside school, when seeking to raise achievement.'

Sutton et al. (2004) found that, as children grow up, while the influence of parents and families remains, schools, friends and peers and the wider community become increasingly significant. By the age of nine or 10, children begin to rate their peers as being of equal importance to, or greater importance than, their parents (Reid and Patterson 1989). Coleman and Hendry (1999) report a steady increase in children's emotional autonomy from parents between the ages of 10 and 14. While time with the family decreases throughout the teenage years, time spent with mothers and fathers on a one-to-one basis changes little between 10 and 18, so parents remain crucial. 'During adolescence, greater significance is given to peers as companions, as providers of advice, support and feedback, as models for behaviour and as sources of comparative information concerning personal qualities and skills. Relationships with parents alter in the direction of greater equality and reciprocity.'

Peer group effects are especially strong when the family is weak (Cullinford and Morris 1997, quoted in Sparkes 1999). While Sacker et al. (2002) find social class sufficient to explain attainment at ages 7 and 11, at age 16 wider circumstances must be accounted for, such as deprivation, school composition and peers.

As children grow up, solutions to individual risks will not be enough; the entire context needs to be considered. Interventions are needed to substitute for the benefits of resource-rich and less-chaotic households, high parental interest in education, motivated and able peers, good schools and good out-of-school contexts. Hendry et al. (1992) have shown that important roles can be filled by mentors, group leaders and other informal teachers. Indeed, in a number of highly successful projects, a high level of personal support from a trusted adult has been identified as a key success factor in preventing exclusion for high-risk groups (Pearce and Hillman 1998, West and Sparkes 2000). This clearly points to the need to ensure adolescents have strong support within their local communities.

2.4.5 Timing of intervention

Programmes to improve educational attainment need to be started young then sustained beyond early childhood development, according to research by Feinstein and Bynner (2004). This is reinforced by Sutton et al. (2004), who comment that actions to reduce risk and enhance protection have to be reinforced over time and in different settings.

Bynner (2000) offers two key points. Firstly, that with earlier interventions and home-school links there is more opportunity to build up a positive reinforcement of developmental processes. Secondly, that the extent of unexplained variation in outcomes suggests there is scope to have a positive influence throughout adult life, and thus it is never too late to intervene (Bynner 2000).

Bailey (1997) notes that effective programmes are often effective because of the quality they bring to a young person's life, rather than because of specific aspects of the organisation and curriculum. Machin and McNally (2006) conclude that while there is 'clearly a need for interventions to target extra help at disadvantaged and vulnerable students, the effectiveness of each of these measures needs to be assessed on its own merits. It is not evident that all these programmes will bring benefits in line with their costs.'

2.5 Analysis and conclusions

The figures presented and discussed in this chapter suggest that approximately one-third of children face some form of disadvantage and that this is likely to affect their educational attainment. Underachievement compounds disadvantage, but the relationship between causal factors and resultant effects is difficult to define.

The three-tier Framework of Disadvantage aims to illustrate disadvantage from an individual's perspective, describing the social, physical and economic environment that exists around that person; specifically:

- their physical and socio-economic infrastructure, such as housing and schools
- the relationships they have with family, friends and the local community, and the behavioural norms they adopt through socialisation
- the identities they develop through interpretation and internalisation of their experiences.

This framework is demonstrated in Table 2, using the themes of education and health as examples.

Tier	Features	Characteristics	Health	Education	Influences
1. Physical and socio-economic infrastructure	Physical and socio-economic factors	Poor housing Deprived community Poverty Oppression (racism, etc) Limited job opportunities	Pollution Food outlet choices Quality of health and social services Family members' smoking/eating/drug habits	Quality of teaching Curriculum School in deprived area	Local, regional and national government policy and regeneration programmes Community activity
2. Relationships and socialisation	Emotional support and socialisation processes leading to social and cultural capital	Cues, eg role models Abuse and harshness Social capital Cultural capital	Models of behaviour Knowledge of how to access better goods and services Peer pressure	Attitudes to learning within peer and family relationships Quality of support for homework	Mentors, role models, teachers, peers, public educational measures
3. Identity and internalisation	Personal interpretation and response to the world	Disaffection Low self-esteem Lack of aspiration Poor motivation	Decisions to eat poorly or start smoking Non-compliance with or non-attendance in health services	Truancy Behaviour Low confidence in abilities	Parents Close personal relationships

Table 2 The three-tier Framework of Disadvantage (developed for this review)

A young person may create a negative vortex around them. At the centre, low self-worth and esteem (tier 3; identity and internalisation) draws the young person further towards the negative influences from tiers 2 (relationships and socialisation) and 1 (physical and socio-economic infrastructure). The young person is more likely to be rejected by his or her peers, engage with negative cues and become embroiled in the deprived aspects of the community, such as drugs and crime. This downward spiral represents the path to failure (Figure 2).

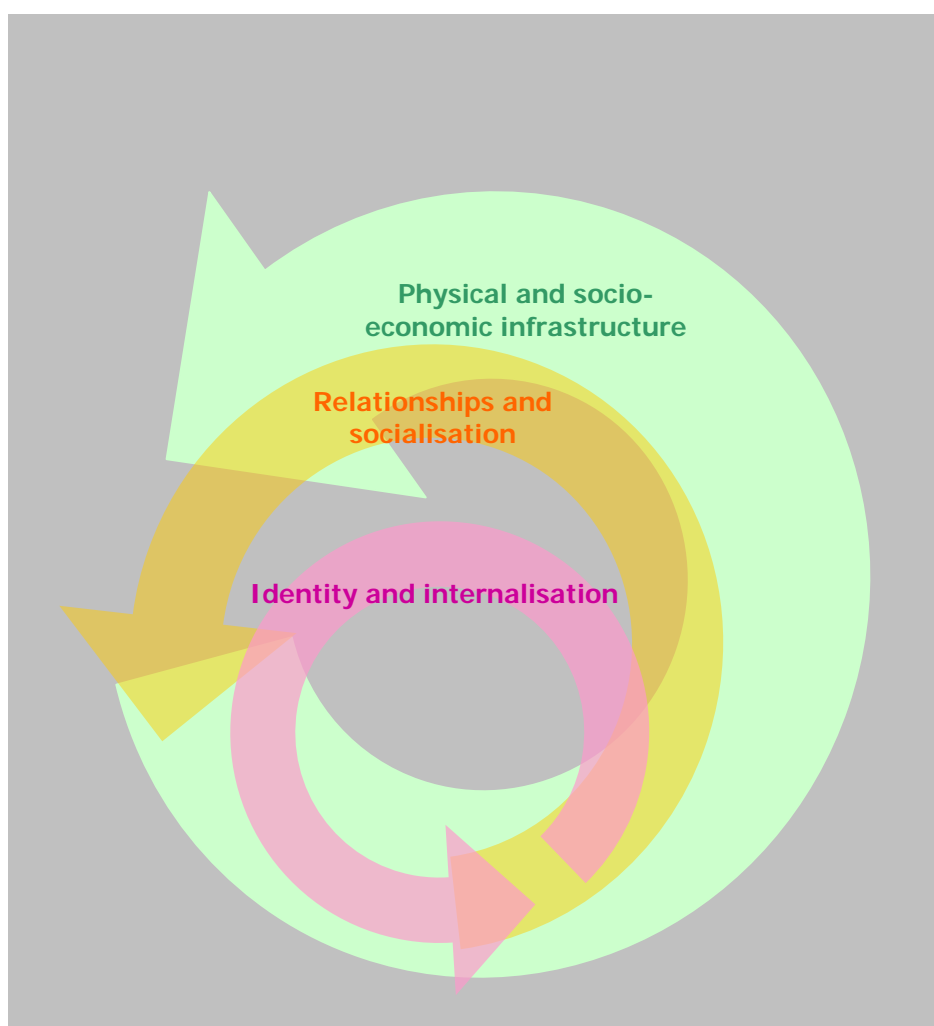


Figure 2 The path to failure represented visually as a downward spiral through the three tiers of the Framework of Disadvantage

Parents who have had a life of disadvantage can transfer their own frameworks into a foundation for the upbringing of their children. In extreme cases, abuse and neglect through learned behaviour are passed on; in milder scenarios, social and cultural capital is limited. This leads to cycles of disadvantage.

Education is a key factor in breaking cycles of disadvantage and taking a young person off the path to failure. Education is a positive influence at all three levels of the Framework. Education can:

- lead to greater income, which can alleviate many of the challenges of a poor physical infrastructure⁸
- increase social and cultural capital and assist people in developing positive relationships
- raise self-esteem, confidence and aspirations through increased knowledge and success.

2.5.1 Educational and parenting interventions

Using the Framework, it is clear that early, targeted, complete and sustained interventions are needed. This could be termed, overall, as taking a holistic approach.

Opportunities to deliver policies and activities can probably have greatest impact, and therefore efficiency, at certain stages of the framework: tier 3 (0- to 12-year-olds), tier 2 (7- to 19-year-olds), tier 1 (adults). For example, if issues of self-esteem and self-worth are to be addressed, programmes would be most effective when implemented at an early age, rather than when an individual is an adult.

Early

The foundations of life are laid at a young age when a child's sense of his or her importance and worth and expectation for future opportunities are established.

The development of early literacy and numeracy skills, established through shared reading and positive play, has been shown to increase a child's later educational attainment (Bynner 2000).

However, it is argued that the importance of developing literacy and numeracy skills at a young age is over-emphasised. The independent Steiner schools, for example, do not teach reading until age seven, yet pupils still achieve good levels of attainment in later years (Woods et al. 2005). Emotional development through play and relationships is deemed equally important. Children most at risk of underachievement might benefit from positive and significant relationships with other adults, compensating for weak parenting.

⁸ This leads to the neighbourhood renewal effect, in which people leave an area as they are lifted out of poverty, compounding the concentrated poverty within that area.

Targeted

The social and cultural capital of well-resourced families means that they can take advantage of opportunities to improve the educational chances of their children. Additional resources to improve the lot of disadvantaged people must therefore be well targeted if they are to be effective.

Sustained

Later interventions to support growing children and adolescents need to focus on the social and cultural capital required to achieve most benefit from education.

Policies could be undertaken that enhance the relevant cultural, social and economic capitals of a child to increase his or her chances of benefiting from the current educational field. Alternatively, a change of field may be attempted, for example broadening the curriculum from a more academic one to one focused on practical skills will benefit more practically orientated children.

Mentoring can help. Reading-volunteering schemes (in which young disadvantaged people have a business volunteer read with them for one hour a week) had much wider impacts on attainment than expected; for example, motivation improved.⁹ This is probably because the scheme tackled the lack of the young person's self-worth, because someone 'important' gave up time just for them.

Skilful mentors can also help a young person navigate the pressures of peers and understand the processes of learning and making the most of opportunities. A national network of mentors could provide feedback on what aspects of the educational field could be adjusted to benefit young disadvantaged people; for example, the curriculum and school culture.

Support for parents could take the form of homework-support groups or marketing campaigns with simple messages on what works in assisting a young person; for example, the crucial point of supporting any form of aspiration and of giving lots of praise. Resources must be in place to back up parents who are not equipped to help with more complicated homework. This can take the form of tailored online tutoring and resources.

Complete

Any programme to alleviate disadvantage is unlikely to succeed if it only tackles the aspects of the Framework. For example, a programme to increase employment in an area must work both on adult skills and employment opportunities. It may also need

⁹ Business in the Community; unpublished results.

to address confidence issues which have been embedded and deepened over many years. Informal learning environments often do this well, but their relative slowness in leading to formal qualifications has led to a decline in their funding, with DfES targets focused on those who will reach level-2 skills (GCSE grades A–C equivalent) within two years. This policy seems to directly disregard the more socially excluded in society.

In a similar vein, healthy living initiatives must take holistic approaches to the ingrained problems that communities face in becoming healthier places to live. Attempts to merely educate through providing health information will not be sufficient.

To achieve a holistic approach, it is necessary to ensure integration of many different programmes and initiatives. Integration is difficult to achieve, but becomes more possible in the digital age, a subject which is discussed later in this document.

A recent report by the Joseph Rowntree Foundation (2007) concurs with many of these findings, suggesting that anxiety, a lack of confidence and resentment about mistreatment are some of the factors affecting a child's view of school and his or her subsequent performance. Children from less advantaged backgrounds feel less in control at school (feeling pressure to perform tasks that they are not confident in doing). They also feel that relationships with teachers and other adults are based on control and coercion, when they need to build co-operative relationships. The report concludes 'These factors are at the heart of the social divide in educational outcomes, but have not been central in solutions so far. Measures to improve the extent to which disadvantaged children engage in education are elusive, but cannot be neglected.'

Chapter 2 has outlined the challenges that exist around improving the life chances of disadvantaged young people. The next chapter explores what role ICT and technology has in supporting both the individual child directly and the educational and social support systems that shape their lives.

Chapter 3

Role of ICT in improving young people's life chances

Digital inclusion refers to the use of technology, whether directly or indirectly, that benefits disadvantaged people.

The different forms of roles of ICT in improving young people's life chances are illustrated by Figure 3 below. Young people use ICT directly for learning, communication and entertainment. ICT is also used to improve the efficiency and effectiveness of support systems and services for young people. Furthermore, interactions between teachers/support services and young people can be mediated by ICT.

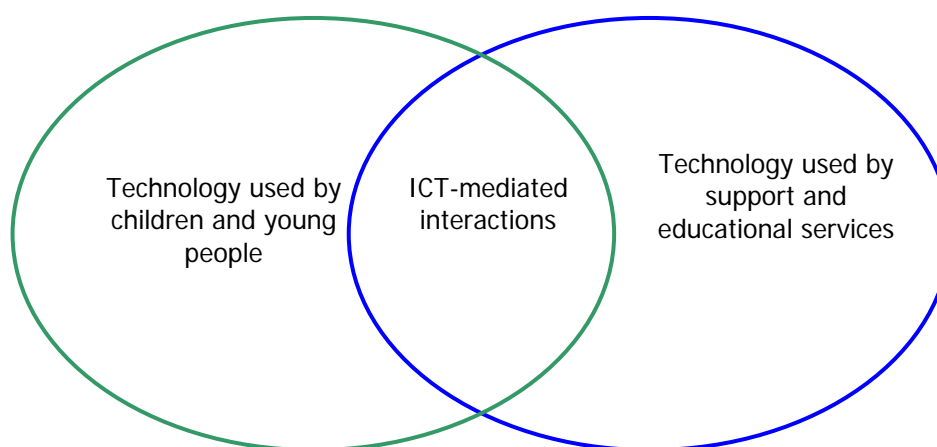


Figure 3 Uses of technology that can have a positive impact on disadvantaged young people

Additionally, the patterns of use by young people vary; the factors that influence this are examined.

Without intervention, resource-rich families are the most likely to adopt technology. Resource-rich families develop ICT skills as a crucial cultural capital for the current and emerging digital age. ICT is used as a tool to increase and strengthen both social and cultural capital, through the tools to support and extend social networks and by easy access to information. ICT can also increase financial capital by giving access to cheaper goods and services.

It is vital to ensure that disadvantaged people are supported to use ICT to prevent inequality from deepening. It is also important to ensure that technology is used indirectly to improve the life chances of disadvantaged families. These issues are discussed within this chapter.

Real-life ICT solutions for the challenges that disadvantaged young people face are given throughout this chapter as case studies. These illustrate the concept of potential applications. Evaluations are often weak or lacking, so the examples are not given with an evaluation of effectiveness. Further information on case study and project examples can be found in Appendix A3.

3.1 Uses and opportunities of ICT

The ability to use ICT is defined as a key functional skill. Along with English and maths, the ability to use ICT is a foundation for participation in everyday life, in learning and in work. About half of all workers use ICT within their work,¹⁰ and this number is continuously growing; recent research suggests it has already reached 75% (Felstead et al. 2007).

ICT can support formal learning

ICT is central to many aspects of formal learning, with children and young people increasingly using ICT and the internet as learning aids both in the classroom and for homework (Condie and Munro 2007).

Johnson and Dyer (2005) discuss the new pedagogies developing with the digital age, which move beyond the concept of the taught lesson to encompass collaboration, reflection and iteration. Johnson and Dyer argue that the development of critical and independent thinking skills are important in the new pedagogies, and that these are enabled by the learner's confidence, self-esteem and interest, ownership of the learning process and ability to create user-generated content.

It is also possible that the new technologies, which are redefining how we communicate, can play important roles in supporting literacy within the classroom (Merchant 2003). 'New written forms of communication reflect speech more closely, for example, email and text messaging, which can provide a useful way in to learning other forms of written expression.' (National Literacy Trust 2005).

A recent evaluation of the impact of ICT in schools review (Condie and Munro 2007) draws further attention to the use of ICT in formal learning. Condie and Munro's review shows that current use is characterised by collaborative, investigative and problem-solving activities designed to develop increasingly independent learners who are confident users of ICT (Hennessy et al. 2005). This focus is supported by a growing emphasis on e-learning, defined by the DfES (2003) as those approaches that exploit 'interactive technologies and communication systems to improve the learning experience'.

¹⁰ ESDIS, the European Commission high-level group on the Employment and Social Dimension of the Information Society [http://europa.eu.int/comm/employment_social/soc-dial/info_soc/esdis].

Studies have found evidence for the success of projects aimed at the disaffected and disengaged. A study by Valentine et al. (2005) involved more than 1,300 students across 12 schools. A study by Passey et al. (2004) was even larger, across 17 schools and including interviews with 121 teachers and classroom assistants and 126 children of broad demographics. Both studies found that ICT in schools motivates disaffected pupils and enabled pupils with special educational needs to demonstrate the extent of their abilities. Interactive whiteboards are effective with disaffected pupils, who 'paid much more attention; they all looked at the interactive whiteboard whereas they would not look at books' (Passey et al. 2004). Passey et al. reported that the vast majority (80%) of teachers thought that pupils who were disaffected in some way could be supported through the use of ICT. Access to the internet helped to motivate pupils to read, and software packages supported writing skills because mistakes could be deleted and corrected without shame (Passey et al. 2004).

ICT in schools may enhance educational attainment

An analysis of student data collected in 2,000 schools across 31 countries concluded that once other resources, institutional characteristics and the socio-economic composition of the classroom are taken into account, no statistically significant difference in pupils' performance could be found between schools 'strongly lacking' computers and those without such a shortage (Thomas and Ludger 2004a).

Thiessen and Looker (2007) found a curvilinear relationship between ICT use and reading attainment, i.e. there are beneficial effects up to a point, but beyond this optimal level of use, the relationship becomes negative. Twining et al. (2006) in their review of the literature maintain that 'there is a lack of robust evidence of the impact of ICT on learning'. However, they maintain, this is in part because such impacts may take time to show, and there are few longitudinal studies that take place over sufficient time.

Twining et al. (2006) also suggest that ICT may help students learn in ways that are not measured in conventional assessments, echoing other researchers in the field, including Cox et al. (2004): 'researchers have often measured the "wrong" things, looking for improvements in traditional processes and knowledge instead of new reasoning and new knowledge which might emerge from the ICT use'.

Furthermore, Cox et al. (2004), in a recent literature review, found 'a positive effect of specific uses of ICT on pupils' attainment in almost all the National Curriculum subjects, the most substantial positive effects being in mathematics, science and English at all key stages'. Harrison et al. (2003) found that 'differences in attainment associated with the greater use of ICT were clearly present in more than a third of all comparisons made between pupils' expected and actual scores in National Tests or

GCSEs, though these were not large'. Even among young children, having a computer at home was found to be beneficial (Espinosa et al. 2006).

How can these results be reconciled? Cox et al. (2004) stress that there is 'a strong relationship between the ways in which ICT has been used and the resulting attainment of pupils. This suggests that the crucial component in the use of ICT within education is the teacher and his or her pedagogical approaches.' Lei and Zhao (2006) found that educationally relevant ICT applications were the least used by pupils at school, but were positively associated with improvements in marks.

The four-year-long ICT Test Bed projects (2007)¹¹ examined how making technology an integral part of learning in schools and colleges could improve learners' attainment levels, classroom practice, and school and college development. Project locations were chosen because of their relative socio-economic disadvantage. The programme was recently independently evaluated¹² and the evaluation found:

- 'As technology was embedded, a school's national test outcomes improved beyond expectation.
- The classroom atmosphere improved through the use of presentation technology, providing greater interaction between teachers and learner.
- Pupils had a more personalised experience by being able to exercise greater choice within the curriculum and learning in more diverse ways, tailored to their individual needs.
- Teachers and pupils were able to work more closely together in setting targets for assessment and for teachers to give individual feedback.
- Behaviour and attendance improved: the use of electronic registration improved attendance levels in some schools by 3–4% while behaviour management systems were reported by teachers to have a positive impact on both behaviour and attendance.'

¹¹ Becta ICT Test Bed project
[http://partners.becta.org.uk/index.php?section=rh&catcode=re_mr_tb_03&rid=13547].

¹² <http://www.evaluation.icctestbed.org.uk>

‘In summary, the evidence seems to point to an impact on attainment where ICT is an integral part of the day-to-day learning experiences of pupils, although the weight of evidence is insufficient to draw firm conclusions. Even where attainment is clearly defined and standardised tests are used, isolating the impact of the ICT use on attainment is problematic. Schools and classrooms are involved in any number of initiatives designed to improve performance and attainment, making it difficult to identify the impact of individual projects or interventions. The evidence on the impact on some of the intermediate outcomes such as motivation and engagement, as opposed to the end-point outcome of attainment, is somewhat more persuasive.’

Condie and Munro (2007)

ICT can enrich and personalise learning

Futurelab (Green et al. 2005) states that ‘the logic of education systems should be reversed so that it is the system that conforms to the learner, rather than the learner to the system’. This concept is known as personalising learning.

‘Personalising learning and teaching means taking a highly structured and responsive approach to each child’s and young person’s learning, in order that all are able to progress, achieve and participate. It means strengthening the link between learning and teaching by engaging pupils and their parents as partners in learning.’ (DfES 2006d).

Green et al. (2005) go on to say that ‘personalisation demands a system capable of offering bespoke support for each individual that recognises and builds upon their diverse strengths, interests, abilities and needs in order to foster engaged and independent learners able to reach their full potential’. Digital technologies are essential to personalisation; ‘without the use of these resources it is hard to conceive how the systemic change needed to reshape the education system around the learner can be achieved’.

ICT can enable:

- wider ranges of presentational styles and teaching approaches, satisfying different learning styles, eg widening use of interactive whiteboards and PDAs, and more generally sophisticated software and hardware
- online assessment and reporting tools which provide formative as well as summative feedback for pupils and teachers
- the development of higher-order skills; for example, analysis and synthesis through independent and collaborative research

- continuity of education for vulnerable children (for example, those hospitalised)
- broadening of options through e-learning provision; in addition, virtual learning environments can give learners more control of their own learning pathways and preferences
- any time, anywhere learning.

The personalisation agenda has much potential to tackle some of the underlying causes of disadvantage and support a young person in making the best of available resources.

Personalisation should and could offer a means of more accurately identifying individual strengths and weaknesses and then setting out to exploit them and remedy them respectively, taking into account what we know about the nature and process of learning and the most up-to-date research in the area. This will require extensive research and the design and evaluation of new approaches to learning using technology.

Personalisation has the potential to improve attainment by making the learning process more relevant, and technology can help to improve levels of engagement and concentration and can give the learner more control over pace and place.

ICT-based systems can give support at the time when it is required, and can give unemotional feedback to students. As well as being part of a learning network, the student can sometimes also benefit from the anonymity of some of the feedback provided by ICT systems, which is non-public and therefore less likely to negatively influence self-worth and pose a risk in the way that the traditional classroom setting might.

Being part of an online learning community can help learners to transcend real or perceived barriers, such as personal appearance or accent, and could help to offset difficulties such as the cost of travel to a school or college. ICT can help learners overcome some of the geographical, social and economic problems sometimes associated with learning, and enable learners to participate in learning which is essentially classless or even anonymous.

The personalised nature of the learning may also help pupils who are at risk of being influenced by peer pressure to conform to a low-achievement and low-expectation response to the learning offer. When pupils can work outside the school environment, they can engage in learning without having to conform to peer pressure.

However, according to Condie and Munro (2007), personalisation ‘can be unsettling for some teachers and may well change the dynamics of the pupil–teacher

relationship. There is little in the literature on the potential impact on relationships in the classroom as schools develop e-capability and use ICT to support the learning process more widely.'

ICT can enable learning opportunities as alternatives to the school environment

A number of initiatives have used ICT to re-engage significantly disaffected learners with formal education and provide an alternative to the school environment.

Notschool.net is a national, internet-based virtual online community offering an alternative to traditional education for young people who, for a variety of reasons (such as illness, pregnancy, bullying, phobia, travelling, reluctance to learn, disaffection or exclusion) can no longer cope with school or with complementary provision such as home tutoring or specialist units. It includes personal mentoring. The evaluation of Notschool.Net (Duckworth 2006) shows many gains for the disadvantaged young people that have taken part, including a re-engagement with learning, social skill gains and increased self-confidence and ambition. Of the 2004–05 cohort of Notschool.net 'researchers', 50% moved into further education, 26% entered college and 18% entered full-time work. Over 96% obtained an accredited Part B certificate equivalent to GCSE grades D–G or higher, over 50% gained grades A–C equivalent, and roughly 8% achieved the equivalent of an A level.

The Virtual College had similar results through a programme using a broadband-connected laptop, with much of the curriculum delivered via the internet. Greater than 90% retention rates were achieved, and 70% went on to further education. Self-esteem, confidence and motivation also improved (Cook 2005).

Attendance and behaviour appeared to improve in ICT-enabled 14–19 Pathfinders projects for disaffected and disengaged students when using ICT to support learning. Innovative approaches to work-based and enterprise learning, along with variations in the pace of learning, also helped (Higham and Yeomans 2005).

The LearnPlay Foundation runs the Game2Grow project, which aims to engage reluctant learners through computer games, developing their literacy, numeracy and ICT skills, as well as the softer skills of confidence, communication and collaboration.

The use of ICT in pupil referral units (PRUs) has led to many reports of positive benefits, which are worth outlining in full.

‘In the case of one PRU that caters for pupils who have emotional and behavioural difficulties, ICT is seen as being able to make a major contribution to learning. ICT is seen as a medium that is enjoyed by most pupils in the PRU that can allow pupils to present work in a professional manner, can help those with dyspraxia, and can support independent learning. Pupils enjoyed the use of sound and animation associated with CD-ROMs, presentational software and interactive whiteboards. It was found that interactive whiteboards maintain the pace of a lesson, while presentational software enables pupils to be creative. Many pupils who attend the PRU do not have access to ICT at home, and the PRU offers lunch time access to pupils.

ICT has been felt to have improved the quality of work that pupils have produced – through use of a revision package, in terms of research, and in terms of the graphics used for presentation. Pupil confidence is felt to be enhanced because pupils can move ahead at their own pace, and those with writing difficulties are also supported. Commitment to the learning task is found to be enhanced, as pupils can help each other more, and time on task can be longer (4 hours for a disaffected pupil working on a music program, for example). Teachers found that pupils enjoyed using ICT because they could be surprised with what they could achieve, they could collaborate more in terms of learning, and it offered greater responsibility. [...]

Learning styles of pupils are felt to be supported, and teachers report that they have higher expectations of pupils as a result. It is felt that pupils behave differently when they are using ICT, as they feel as though they are being treated more like adults. The head teacher at one PRU has seen, “pupils move from being shy and self-deprecating to the production of a presentation, their working with a business person, and presenting to an external audience”. [...]

Some ways in which ICT is being used to support projects within PRUs is leading to stronger motivational outcomes being reported than when ICT is focused only in ICT lessons. ICT was involved in a multi-agency village project, for example. ICT was used as a means for pupils to create publicly accessible work, and pupils were given awards for their outcomes. As a result, vandalism was reduced in this village setting.

An example of a project involving ICT that was run in one PRU involved a freelance artist who worked in youth centres, youth contexts and PRUs. Her experience suggested that publicly available work, art work in this case, was likely to motivate. She focused on a number of specific projects, using laptops and video cameras that drew immediate attention from pupils. Interested young people worked for a whole day, producing a publicity picture.

There was a visible result at the end, and their contribution was externally valued. Young people saw the professional use of a digital image manipulation package, and recognised how the work could be undertaken using the techniques offered by this package. The freelance artist worked informally with the young people, but defined their roles within groups or teams. She used video for evaluation purposes, and to record video diaries. The use of cameras, video, and immediacy of results was found to be motivating. The artist found that disaffected pupils could be creative, especially when digital imagery was used well. She set up projects that could not fail, since self-esteem was very important. She found that pupils could be put into a 'cannot draw' bin, and ICT was used to challenge this perception.'

Passey et al. (2004)

Evidence suggests that there is scope for further development of combined basic skills and/or language and computer literacy training to meet the needs of black and minority ethnic groups in deprived communities (Owen et al. 2003). E-learning packages might make this work more efficient.

The report of an e-learning and mobility project, E-LAMP, identified how developments in ICT have opened up new ways of approaching distance learning for young gypsy, fairground and circus children and travellers (Marks 2004). The project enabled children to access the internet via datacard devices, allowing them to send work to teachers and receive feedback via email.

ICT use can develop softer skills, useful for the labour market

The unconstrained use of ICT by young people appears to support the development of a number of softer skills, such as networking, collaboration and problem-solving. Softer skills are valued by the labour market, whereas one study showed the development of ICT skills alone did not improve employability (Stoneman and Anderson 2006).

A recent Demos report (Green and Hannon 2007) involving diary-keeping and interviews with parents and young people found four types of young ICT users: digital pioneers, creative producers, everyday communicators and information gatherers. The report identifies a set of soft skills (recognised by teachers, parents, academics and children) that ICT supports: communication, general knowledge,

creativity, collaboration, self-esteem, parallel processing, persistence, peer-to-peer learning, risk-taking, multitasking, logical thinking, problem-solving, trial and error learning, hand-eye co-ordination, technical confidence and content creation.

Jenkins et al. (2006) argue that society has an increasing 'participatory culture', implying an increased need for specific skills. These skills are positively supported by engaging with ICT, and include:

- 'Play: the capacity to experiment with one's surroundings as a form of problem-solving
- Performance: the ability to adopt alternative identities for the purpose of improvisation and discovery
- Simulation: the ability to interpret and construct dynamic models of real-world processes
- Appropriation: the ability to meaningfully sample and remix media content
- Collective intelligence: the ability to pool knowledge and compare notes with others towards a common goal
- Judgment: the ability to evaluate the reliability and credibility of different information sources
- Transmedia navigation: the ability to follow the flow of stories and information across multiple modalities
- Networking: the ability to search for, synthesise, and disseminate information
- Negotiation: the ability to travel across diverse communities, discerning and respecting multiple perspectives, and grasping and following alternative norms.'

Whether game-playing is a beneficial activity is debated

As the skills required to participate in this new culture evolve, the boundaries between what constitutes learning and what constitutes play, as well as where these experiences takes place, become blurred.

Many scholars suggest that the dichotomy between gaming use and educational use of computers is a false one. Harrison et al. (2003) note that 'pupils' perceptions of what learning is are shaped by their experience in school settings. They associate 'learning' with school-related use and typically describe all ICT use at home as 'games'. When the meaning of 'games' is probed, it is clear that much learning is taking place through their use of ICT for leisure pursuits, including learning of factual knowledge and conceptual understanding.'

A growing body of research – for example, Shaffer et al. (2005) – suggests that some games may contribute to learning, though the new competencies that may be

developed may not necessarily be reflected in current educational assessment criteria. Research has shown that children learn about technology through experimentation. This is a form of higher-order thinking,¹³ as opposed to mechanical process thinking. Children who used this form of thinking to learn how to use games machines and mobile phones transferred their knowledge to help gain new skills in PC use (Morgan and Kennewell 2005).

Unfortunately, as Kirriemuir and McFarlane (2004) remark, 'much of this research relies on inference from the structure of computer games and psychological theory rather than direct and sustained empirical evidence'.

Recent studies at Futurelab have also raised some questions as to whether children are able to move from intuitive problem-solving in a game to an understanding of effective processes for identifying problems and generating hypotheses and solutions in other contexts. Friesen (2007) concludes that the so-called new literacies associated with computer games leave the player with little of real value after the game is switched off.

Overall, there appear to be valuable skills that can be developed by some forms of playing and socialising with computers. It is likely that the forms of use that are more beneficial are more likely to be undertaken by more-resourced children, but this aspect of this under-researched agenda is not clear.

ICT can support social and cultural activities

ICT can also be used as a social and cultural tool for sharing information and experiences through peer-to-peer networking and communities of interest; for example, making and maintaining friendships or developing a knowledge around a particular hobby or interest. The extent of use by young people, particularly the use by disadvantaged young people, is not well explored.

A recent qualitative Ofcom consumer panel report Children and the internet (2007) found that children give great importance to ICT as a social communication tool. Communication and social networking with known peers were the most important uses of the internet for adolescents in a US study, with email and instant messaging more popular than chat rooms (Gross 2004). Children have been observed organising social gatherings and negotiating their social relations, for example by using email to stop a boy bullying others (Valentine and Holloway 2001).

The growth of personal websites, weblogs and social networking software may provide many young people in particular with opportunities for self-exploration and

¹³ Higher-order thinking skills involve manipulating information and ideas so that deeper understanding and new meaning can be derived.

creative self-expression, not otherwise available to them (Chandler 1998, Schmitt et al. 2004). For young people in isolated rural communities, it has been suggested that internet access not only 'allows children to extend the scope of their knowledge acquisition but also [allows] children to extend their personal horizons as social actors' (Valentine and Holloway 2001) offering 'a way of escaping from the spatial and social constraints of rural life'.

ICT can also assist schools in achieving greater social diversity by enabling communication and co-operation through virtual and real linkages with other schools in different geographic and socio-economic environments (DfES 2006b). World Ecitizens¹⁴ is an online space where children in schools, from different cultures from across the world, can share their ideas about what kind of world they want to grow up in.

ICT can also support disadvantaged members of minority groups, particularly those with concealable stigmatised identities – for example, homosexuals – to increase self-esteem through acknowledgement and reinforcement of that identity (McKenna and Bargh 1998).

NetMums [<http://www.netmums.com>] is a network of locally focused websites aimed at parents to help them enjoy and cope with the demands of parenthood. The websites provide information about places to go, local activities, education, childcare, community and employment issues. Support and guidance is also provided on topics such as postnatal depression. The sites help to bring local parents together to improve their social networks and combat isolation.

ICT can enable confidential support and advice

Anonymity and access to advice and support are important when a young person is faced with challenges related to sensitive issues such as health, bullying and crime. These challenges are more likely to be faced by young disadvantaged people, and yet these young people's access to information is less because of diminished social and cultural capital.

A number of innovative schemes use technology to help provide support. The GIRLS Sexual health textback service is a confidential service offering relationship and sexual health advice to 13- to 25-year-old women in Durham and Chester-le-Street. Young women are encouraged to send in questions by text, and outreach workers then text back a response. By using text as the communication route, anonymity is

¹⁴ Ecitizens [<http://www.worldecitizens.net>].

provided to the user, which helps to counter any stigma or embarrassment associated with sexual health issues.

Based on the frequent use of text messaging by younger people, the Text Someone¹⁵ initiative offers text as a communication route to report bullying, crime or antisocial behaviour, and is a good example of how technology can be used to make a service user-centric.

Localities also fight crime through technology and at the same develop a stronger sense of community. AlertBox¹⁶ is an electronic form of neighbourhood watch which enables people to inform their community of any trouble or threat, or ask for help in an emergency, by simply pressing a button. Current projects have shown increased community safety and reduced fear of crime, in both residential and commercial settings.

Technology is also being used with ex-offenders to build their self-esteem through giving them responsibility. The ex-offenders' experiences are used to inform others of the consequences of crime. One specific example of such a scheme is RIZER.¹⁷ This is a confidential web-based information gateway which provides information to young people (specifically 11- to 17-year-olds) about the consequences of being involved with crime. The service has been designed with the assistance of ex-offenders. This project, and others similar to it, aims to create experiences that will prevent negative behaviours in vulnerable young people.

ICT can support political activities

DiMaggio et al. (2004) note that there are discussions on the potential of ICT to enable or encourage greater political engagement. They conclude, citing Bimber (2003), that the evidence so far (from the USA) is mainly that ICT makes it easier for the already politically engaged to become more so. They note, however, that 'Internet use may have a larger net effect on the behaviour of socially and politically engaged users with fewer resources, for whom the advantages the Internet affords may be correspondingly more important' and that 'Shah et al. (2001) report that the positive effects of Internet use on community engagement are stronger for young users, for whom the medium is a central part of life, a difference that would tend to increase equality of participation' (DiMaggio et al. 2004).

¹⁵ Text Someone [<http://www.textsomeone.com>].

¹⁶ AlertBox [<http://www.alertbox.co.uk>].

¹⁷ RIZER [<http://www.rizer.co.uk>].

This is supported by an NOP survey (2002) in which 30% of 15- to 24-year-olds said they had done something political online, compared to 11% of 45- to 54-year-olds (who normally dominate offline politics).

Potential impact of future technologies on the nature of education

Daanen and Facer (2007) have recently considered how the trend of current technology development will affect the nature of education in the future. Technology devices will become highly embedded and ubiquitous with hugely increased processing power and storage capacity.

They ask: 'What does a fair education system look like, if intelligence is enhanced and developed through tools that can be purchased?' 'Who or what should be tested in exams? The person, the person plus tools or the person's use of tools?' 'What skills should education develop and which will be valued by our future society?'

They conclude that 'We need to confront the fact that longstanding assumptions about what education is for, who conducts it, and how it is assessed, may need to be challenged. And this challenge will need to take place in the public spaces of the media, not the confines of the education community – with families, children, businesses, technologists, religious leaders and scientists all making their case for how education may need to change to meet the social, environmental, spiritual and human needs of the future.'

Daanen and Facer (2007)

3.2 Factors influencing the ICT experience

There is no doubt that ICT has a growing importance in young people's lives. However, access to and use of technology is not equal across socio-economic groups, being affected primarily by parental and school factors. The resultant impacts of technology use are also discussed below.

Variations in access and use

Data on the use of ICT by young people is lacking and inconsistent in its findings. The Ofcom Media Literacy Audit (Ofcom 2006) found that nearly half (48%) of children aged 8–11 use the internet at home, and two-thirds (65%) of children aged 12–15 do so. Valentine et al. (2005) found that the majority (89%) of children in Years 6, 9 and 11 and parents of Year 2 children claim to have access to at least

one computer at home (including laptops), with 12% of pupils living in homes with three or more PCs or laptops.

The UK Children Go Online research (Livingstone and Bober 2005) found that among 9- to 19-year-olds:

- Twenty-three per cent have never accessed the internet on a computer from home, and 29% currently lack home access. Sixty-four per cent have used the internet elsewhere (someone else's house, public library, etc).
- School access is near universal: 92% have accessed the internet at school.
- Over one-third (36%) have more than one computer at home, and 24% live in a household with broadband access. Access platforms are diversifying: 87% have a computer at home (71% with internet access on that computer), 62% have digital TV (17% with internet access), 82% have a games console (8% with internet access), and 81% have their own mobile phone (38% with internet access). Internet access on devices does not imply use. Those with internet access at home are also more likely to have other technologies at home.
- Socio-economic differences are sizeable: 88% of middle class but only 61% of working class children have accessed the internet at home; 86% of children in areas of low deprivation in England have used the internet on a computer at home compared with 66% in areas of high deprivation. The number of access points to the internet is also greater for children from middle class homes than for those from working class homes.
- Middle class children benefit from higher quality access on a range of indicators, compared with those from working class backgrounds, and they take up more of the range of online opportunities on offer.
- A small but significant number of young people (around 15% of 16- to 24-year-olds) are not regular internet users (Office for National Statistics 2006). (These figures have been consistent since 2002.)

Not all uses of the internet are considered equal in terms of their contribution to improving life chances. DiMaggio et al. (2004) point out that 'there are uses that increase economic welfare (skills enhancement, employment opportunities, consumer information); political / social capital (news, electoral information, public issues) versus those that are primarily recreational.'

Dutch research involving adolescents aged 13–18 showed that those who are more disadvantaged tend to use the internet more for entertainment purposes than for information gathering (Peter and Valkenburg 2006).

Variations in home use and the impact on educational attainment

More than three-quarters of families welcome the impact of technology on their lives, and more than half of parents (57%) surveyed believe the internet has helped their children's school grades (Consumer Analysis Group for BT 2006). However, ABC1 parents are more positive about the benefits of ICT for their children than C2DE parents (Green and Hannon 2007).

Moreover, Snyder et al. (2004) found that 'gaining ICT at home was not enough to ensure that the disadvantaged families used the internet as richly as the advantaged family'. This is likely to be due to the diminished cultural capital in disadvantaged families, resulting in a lesser ability to optimise the benefits from available ICT tools.

Buckingham (2002) observes the 'uncertain pedagogy' of the home computer. Parents buy technology to help their children's education, but then they (and their children) do not know how it should be used to support learning. Guidance on use is not issued by schools, despite the fact that home computers are often more powerful than those in school (Harrison et al. 2003).

Malet Lambert School in Hull is a mixed comprehensive for 11 to 18-year-olds, and offers a very interesting example of community engagement. The school developed and ran a programme called Parents and Children Working Together. The school hypothesised that parents who undertake an accredited Learning to Learn course become more effective in supporting their children with learning and become better learners themselves.

Ten parents participated in the course over 12 evenings, covering topics on learning styles, multiple intelligences, communication skills, improving learning performance, action planning and ICT. The parents undertook the course partly to benefit their children, but also to help them in their work.

Overall, the feedback was very positive, with participants explaining that they had changed the way they listen to and encourage their children, have taken control to pursue the things they want in life and work, gained confidence, and made constructive plans for improving aspects of home life and work

Harrison et al. (2003) have found that 'for most pupils the amount of time spent on ICT at home greatly exceeds the time spent on ICT at school. Pupils perceive that they have greater autonomy to explore ICT at home and the opportunity to use it for longer periods of time.'

Although middle class households are more likely to have internet access, working class parents are disproportionately more likely to locate internet access in the

child's bedroom, which could mean less homework support and more uses which are detrimental (Livingstone 2007).

The extent to which home use is educational, and just as importantly what kind of use constitutes educational use, is contested. Several studies attempt to separate game-playing from educational use (Attewell et al. 2003, Valentine et al. 2005, Espinosa et al. 2006), often without providing a suitable definition of what such educational uses may be.

Game-playing represents the bulk of children's use of home computers: 'on average a young child with a computer at home spends roughly 3 hours per week playing games and only half an hour a week on learning or educational activities' (Attewell et al. 2003). Valentine et al. 2005, in one of the few survey-led studies of attainment which attempted to measure and compare the effects of different kinds of use of computer use in the home, determined 'There was a statistically significant positive association between pupils' use of ICT out of school for leisure purposes and decreases in attainment. This effect was over twice as large an effect as the positive association of using ICT for educational purposes.' (Valentine et al. 2005).

Indeed, there is growing concern that over-exposure to technology, particularly for younger children, can stifle their physical and psychological development processes (Alliance for Childhood 2004). Playing violent computer games may stimulate aggressiveness and desensitise a child to suffering, blurring a child's ability to distinguish between the virtual and real worlds (Subrahmanyam et al. 2000).

Thomas and Ludger (2004b) found that 'holding the other family-background characteristics constant, students perform significantly worse if they have computers at home'. However, they found that the picture changed when the nature of use was taken into account. 'Holding all other influences constant, the performance of students with internet access at home is statistically significantly better in math and reading than the performance of students without internet access at home.' This is a factor of frequency of use. 'Students who never or hardly ever read emails and web pages perform statistically significantly worse than students who use them between a few times a year and several times a month, and students who use emails and web pages several times a week perform statistically significantly better.'

Educational software at home was found to support maths attainment, but not reading (Thomas and Ludger 2004a).

Variations in use by teachers

The Becta Harnessing Technology survey (Kitchen et al. 2007) reports that:

- Digital resources are used on average for 43% of primary teachers' lesson planning and 34% of secondary teachers' lesson planning.
- The majority of teachers (58% of primary and 65% of secondary teachers) create their own digital learning resources.
- ICT is mostly used for whole-class activities. (This may be the use of interactive whiteboards, which are in place in almost all schools, intensively used and highly rated by teachers.) Only a minority of teachers encourage the use of social software by their learners. About two-fifths (43%) of primary teachers and a fifth (21%) of secondary teachers had used ICT for small-group activities in at least half of lessons.
- Display technologies were used in at least half of lessons by nearly two-thirds (64%) of secondary teachers, while about one-third used computer packages (36%) and internet-based resources (33%). Two-fifths (41%) of secondary teachers made use of subject-specific software applications in at least half of lessons.
- The most common way in which teachers use ICT to help pupils learn is for gathering information. More than half of primary teachers use ICT with pupils in at least some lessons for analysing information, being creative and problem-solving, while fewer than half of secondary teachers use ICT in lessons in these ways.

A subsequent report suggests that 'development of ICT in schools is progressing unevenly across and within schools and technologies. Some seem to be content with achieving the Government's targets in terms of numbers of computers and connectivity, while others are being highly innovative.' (Condie and Munro 2007). This is echoed by Johnson and Dyer (2005), who note that many teachers still regard the internet as 'a convenient mechanism for delivering traditional materials online'.

It is worth noting that there is no a correlation between a teacher's understanding of ICT and that teacher's understanding of ICT-enabled pedagogy. Teachers are more likely to understand ICT in teaching when their general understanding of pedagogy has developed (Condie and Munro 2007).

"Teachers need to be given more training in the effective use of ICT to improve the quality of students' learning as part of their continual professional development. Some ICT training is too skills-based and not sufficiently focused on developing ICT capability."

Cathy Morgan HMI

Specialist Subject Advisor – ICT

Anderson (2005) argues that school-based ICT can exacerbate educational disadvantage rather than overcome it. He reviews international findings that minority, poor and urban students get less exposure to computers for higher-order learning, and that their teachers have received less professional development on technology use and ICT-enabled pedagogy. Anderson suggests that the resources directed at the advantaged are far greater than compensatory efforts made for the disadvantaged, so the information-rich pull further ahead.

Worse still, the models of teaching used with disadvantaged students may lead to a decrease in educational outcomes (through a focus on 'drill and practice' activities) when teaching models involving higher-order thinking and problem-solving could have led to increased outcomes. In a small-scale study, students with intellectual disabilities were marginalised through an over-emphasis on skill-based development. The development facets such as creativity, problem-solving, higher-order thinking and metacognition were ignored. Technology-enabled 'Mindstorm' and 'mindtools' pedagogy re-engaged the students in a sustained way, and they succeeded in achieving formal reading ages (Anderson 2005).

Heemskerk et al. (2005) identified representational issues of different gender and race groups in educational materials and concluded that it may not be possible to teach all students from different backgrounds with the same software because of the difficulty in addressing their needs.

Risk factors may limit positive ICT opportunities

Access to the internet also brings with it potential dangers and harm through exposure to pornography, gambling sites, race-hate sites and paedophiles.¹⁸ Some young people have also experienced bullying mediated by ICT.¹⁹ These risks are likely to be more severe for disadvantaged young people where parental expertise may be insufficient to ensure their safety.

These internet-related dangers may motivate schools and parents to remove opportunities to use computers flexibly and experimentally rather than just for narrowly approved uses, which can reduce the opportunities for soft-skill development and fun.

¹⁸ See, for example, the press release 'Children as young as 11 can set up gambling accounts at the click of a button' [<http://www.gamcare.org.uk/shownews.php/000095.html>] on the GamCare website, and 'Race hate sites target children' [<http://www.abc.net.au/pm/stories/s41888.htm>] on the ABC website.

¹⁹ 'Suicide bid girl "bullied online"' [http://news.bbc.co.uk/1/hi/wales/north_west/5356078.stm] on the BBC News website.

A backlash against the use of laptops in schools was recently reported in The New York Times;²⁰ schools are beginning to drop their one-to-one laptop loan schemes. School officials said that laptops had been abused by students, did not fit into lesson plans, and showed little, if any, measurable effect on grades and test scores at a time of increased pressure to meet state standards. Districts dropped laptop programmes after resistance to them from teachers, logistical and technical problems, and escalating maintenance costs.

If the impacts and best methods of use of ICT in the lives of young people are not clarified then such cancellation of programmes is inevitable and may lead to a serious loss of opportunity, given other reports of the positive effects.

3.3 Integrating ICT into support systems and services

Beyond the use of ICT by young people themselves, there are wider agendas in which the efficiency of support systems and services can be vastly improved by ICT. Opportunities to innovate using ICT also exist: current practices can be enhanced through technology, but practices can also be completely revolutionised with the new tools.

The Government has moved from a narrow view of the benefits of ICT, using it to increase the number of channels by which it communicated, to embracing ICT more holistically through the transformational government agenda.²¹ The Government aims to use ICT to support the transformation of public services around the needs of citizens, businesses and frontline service providers. This can produce efficiencies, since an average face-to-face transaction lasting 10 minutes could cost a local authority £14.65 at a one-stop-shop, £1.39 via a call centre contact or just 0.25p when completed as an online transaction.²²

Effectiveness can also be improved; in the context of disadvantage, this takes four main formats:

- Supporting frontline staff
- Operational data-sharing
- Supporting policy.

²⁰ 'Seeing No Progress, Some Schools Drop Laptops'
[<http://www.nytimes.com/2007/05/04/education/04laptop.html?ex=1335931200&en=75dac8d7966c6d80&ei=5090&partner=rssuserland&emc=rss>] on the New York Times website.

²¹ HM Government (2005), 'Transformational Government'
[<http://www.cio.gov.uk/documents/pdf/transgov/transgov-strategy.pdf>].

²² <http://www.govconnect.gov.uk/assets/documents/enabling-transformation-oct-20>

Supporting frontline staff

ICT has a key role to play in empowering frontline staff in the push for improved and transformed services. Mobile technology tools can enable service providers to move the point of service delivery from traditional locations, such as Government points of presence on the high street, to less traditional locations in community centres, streets, estates and people's homes. Empowered frontline workers with accurate and up-to-date information at their fingertips can help to deliver more effective services to people in their own homes, while at the same time giving workers a more fulfilling job by allowing them to spend more time out of the office, in the community with service users.

While mobile technologies are an essential part of the solution, they need to be coupled with central information stores. Central databases and service portals that are accessible across a practitioner community are key tools for empowering frontline workers. For example, UKrefugesonline.org is a database of domestic abuse services across the UK. Domestic violence practitioners have secure access to the database at any time across the internet.

ICT tools also enable frontline staff to organise their work more efficiently, sharing resources with fellow practitioners and communicating with clients. However, although this can bring service delivery gains, it also carries a burden of training and culture change.

The capacity and capability of individuals who design and deliver support services need to be developed so that people are aware of the opportunities and advantages of integrating ICT into their delivery mechanisms. Key projects in this area include Project Nomad,²³ a project aimed at developing a set of mobile-enabled products and services via text messaging.

Supporting teachers and schools

Student-facing uses of technology in education have already been examined. Beyond this, teachers and schools can make use of ICT to improve the efficiency and effectiveness of the services they deliver. Possible benefits are:

- Digital learning resources that can be more easily shared, edited and personalised by teachers than can traditional resources

²³ Project Nomad [<http://www.projectnomad.org.uk>].

- Effective and efficient internal communication between staff and between school and parents/carers by email and through intranets, extranets and text
- Comprehensive management information systems informing decision-making
- Networking, collaboration, mentoring and support between individual leaders, institutions, and statutory and support organisations
- Improved and more efficient planning, preparation and assessment.

Access to curriculum materials and learning content from home enables greater parental involvement in the learning process and more informed and timely support. For example, Chafford Hundred Campus²⁴ conducted two e-parents evenings when parents were introduced to the online e-report for their children and shown how to navigate their children's behavioural logs and target and assessment data.

Implemented well, these tools and processes offer the opportunity for teachers and schools to work more efficiently in general, thereby freeing time which can be allocated to specific work to alleviate the disadvantage faced by certain children. Moreover, it can enable more specific work with disadvantaged students and their families to be undertaken with increasing effectiveness.

Ridgeway Infant School implemented an ICT-enabled method to record pupil data and found that, for minimal expense, they could create more teacher time and better parental relations.²⁵

St Benedict School identified a need to streamline its records of non-academic achievements and disciplinary events; its manual system recorded information in many different ways. The school invested in new ICT systems to enable a new approach. The new systems allow the school to make more informed decisions on disciplinary action more quickly.²⁶

²⁴ Chafford Hundred Campus [<http://www.chaffordhundredcampus.thurrock.sch.uk>].

²⁵ 'Improving assessment recording techniques' [<http://www.teachernet.gov.uk/casestudies/casestudy.cfm?id=50&subcatid=63&catid=32>] on the TeacherNet website.

²⁶ 'Pupil profile systems to manage discipline and monitor attendance' [<http://www.teachernet.gov.uk/casestudies/casestudy.cfm?id=101&subcatid=63&catid=32>] on the TeacherNet website.

Dunshaughlin Community College installed Truancy Call to help reduce school absences. The system allows school staff to make contact with parents of absentees via automated phone call, text message and email; parents can respond in the same way. The automated messages continue until a response is received. Truancy Call [<http://www.truancycall.com>] gives parents the opportunity to inform the school directly of the reason for the absence and the likely duration.

Text messaging to alert parents about truancy seems to be having an impact, with Scottish schools reporting reductions of as much as 27%²⁷ and Bilton High School, Warwickshire reporting a 39% reduction.²⁸

Sharing of operational data

Operational data-sharing is a key component of the transformational government agenda, and involves sharing personal data, such as the benefits a person has received in the past or hostels a person has visited.

The arguments in favour of sharing personal data are that it contributes towards:

- public service transformation through more efficient, personalised and customer-focused public services
- reduced regulatory burden, through reducing duplicate requests to citizens and business
- innovation; for example, new ways of promoting child protection or health, through wider sharing of information.

Data-sharing helps to manage multiple interactions and allows agencies to target support to the most disadvantaged, while focusing on people's individual needs.

The objections to data-sharing include that it is an invasion of personal privacy and that people might be put off working with an agency that might ask if data can be shared. A balance must be struck so that benefits can be delivered while public trust is maintained.²⁹

Data protection legislation is sometimes used as justification for unnecessary barriers to sharing information, but the reality is that the Data Protection Act is not a significant barrier in itself, and it is often a lack of clarity for practitioners that is the key issue.

²⁷ *The Guardian*, 6 December 2006.

²⁸ 'Something that HAS made a difference' [http://www.a2zcoreitsolutions.com/news/GroupCall_Difference.asp] on the A2Z Core IT Solutions website.

²⁹ To shape this agenda the Government have established MISC31, the ministerial committee responsible for developing the Government's strategy on data-sharing across the public sector.

With respect to the socially excluded, the Government has already put forward a programme of data-sharing pilots to explore alternative approaches to assisting those with multiple needs (HM Government 2006). Such individuals can be identified through operational data-sharing and protected against gaps in service provision between agencies.

Examples of operational data-sharing already exist. In education, the DfES gave 10 local authorities, pairings or groups of neighbouring authorities £1 million each to develop and test new ways of information-sharing and multi-agency working through identification, referral and tracking projects. The emphasis was on data-sharing between relevant agencies for specific children with additional needs (Cleaver et al. 2004).³⁰

There are also examples of local authorities sharing with partners information relating to vulnerable people. For example, the London-wide Child Protection onLine (CPoL) project will be the first project specifically to provide secure, auditable electronic access to child protection registers for all authorised A&E clinicians and social care professionals to support child protection.³¹

Government Connect is the enabling infrastructure being developed to assist those wanting to share operational data. It delivers tools to enable local authorities to share information securely. It will also enable data-sharing between central and local Government; there is potential eventually to link Government to the third sector.

Supporting policy-making and delivery

Policy-making and delivery can be enhanced in the digital age through the strategic sharing of information.

Strategic information-sharing avoids the difficulties of privacy policy as it is concerned with aggregated, anonymised information that does not reveal specific information.

Strategic information can be used to tackle social exclusion at both personal and community levels through facilitating a better understanding of local patterns of social exclusion and the drivers of social exclusion, such as crime and truancy, so that planning is efficient and effective, and services are delivered where they are needed most.

³⁰ This project has successfully engaged stakeholders, but has not yet delivered results on the ground; see interim evaluation.

³¹ Child Protection onLine [<http://www.cpol.nhs.uk>].

For example, geographical information systems (GIS) enable policy-makers to analyse data from multiple sources from a geographical perspective. GIS have been developed to empower users to visualise administrative information while combining it with other key data sources and geographical boundaries. This information includes:

- the boundaries of different geographical areas (local authorities, super output areas, postcodes)
- 2001 census data of particular interest to the DWP; for example, ethnicity, employment rates, educational attainment, housing tenure, self-reported sickness, etc
- benefit caseloads and claim rates at various geographical locations
- the ethnographic details of claimants.

The Department for Work and Pensions (DWP) GIS tools have been used by Liverpool Local Strategic Partnership to identify areas where there are high numbers of incapacity benefit claimants and where it can strategically target its policies for tackling worklessness. Similarly, Kent County Council has used the DWP GIS data to pinpoint lone parent hotspots within the county and thereby more effectively focus policy action.

The Fuel Zone Points Reward Scheme¹⁴ has been introduced by Glasgow city council to offer incentives for healthy eating to around 30,000 children in 29 secondary schools.

Pupils, who sign up to the scheme on a voluntary basis, are given smart cards with magnetic strips that are used to record points gained for eating sensibly. Points can be redeemed for various rewards, including cinema tickets and computer game consoles.

This scheme directly tackles the policy issue of childhood obesity by using technology to incentivise healthy eating. It also helps to increase the takeup of free school meals by reducing stigma, because everybody uses the smart cards.

3.4 Analysis and conclusions

Throughout this chapter, the potential role that ICT can play in raising aspirations and alleviating disadvantage has been demonstrated. It is sometimes argued that disadvantaged and socially excluded young people have more immediate needs than to engage with technology. However, it has been demonstrated that if well integrated, ICT can support a variety of basic needs, such as health, nutrition, safety and wellbeing, through innovative applications.

If technology can enable early intervention to prevent problems in these areas, there is a clear economic benefit for such action, given the potential downstream costs of benefit payments and institutional care if action is delayed.

One key weakness in technology projects is that evaluations of effectiveness have generally not been undertaken. 'Inclusion through Innovation' from the Social Exclusion Unit (2005) states 'there is little evidence of serious evaluation, roll out, or awareness of successful trials' and 'research by the I&DeA [Foley et al. (2005)] reviewing activity in English local authorities, also indicates that less than a third of ICT exclusion projects targeted at excluded groups were found to have been systematically evaluated [...] Such lack of evaluation can lead to a poor appreciation of the benefits of ICT for social inclusion, poor replication of good practice, or duplication of effort where the experience of past initiatives is not drawn upon.'

Evidence of the motivational benefits of ICT for disaffected pupils is persuasive but not conclusive, largely because studies have not focused on disaffected pupils, but only dealt with them as one of many issues (Valentine et al. 2005, Passey et al. 2004). Evidence tends to be anecdotal and focused on reports from a few sources, rather than from systematic, longitudinal studies. (However, the nature of the subject does make such studies difficult.)

Enthusiastic reports of the benefits of ICT come from those working closely with technology. The biases of such people may affect their perceptions of the benefits. Attewell (2001) points out that demonstration projects 'typically use highly motivated teachers who have been properly trained in the use of the particular software being studied and who draw on extensive technical support provided by researchers. The children receive a lot of enthusiasm and attention beyond just computing.'

Within schools, ICT benefits are heavily dependent on appropriate use by trained and committed teachers. Parental support is essential for effective home use, and there is an urgent need for guidance to be issued to parents on how they can optimise the benefits of a home PC. Supporting parents in general is essential, and schools can maintain better links with parents when communication is mediated by technology.

A similar scenario exists with the Notschool.net model, which relies on the fact that the researchers (the young students) live at home and are supported by at least one person in the household. 'Notschool.net would not work for young people in severely dysfunctional families in which there is no support from carers, nor for those in short-term care placements or temporary hostel accommodation where there is little of the continuity of care and attention required to sustain and encourage learning.' (Duckworth 2006).

General attempts to engage disadvantaged communities with ICT have often been unsuccessful (Phipps 2000, Warschauer 2003), despite the resources that were spent.

While community-based projects are still resource-intensive (in both online and, especially, offline resources), evidence indicates that marginalised groups more successfully gain internet-related skills and literacies when they come together for a community-based project meaningful to their circumstances.

Multiple factors – material, economic, social, cultural and technical – crucially mediate access to and use of the internet. The nature and extent of the deployment is essential (Holloway and Valentine 2003). Therefore, several elements of projects have an effect on their likelihood of success; indeed, some can be essential, including strong leadership, good relationships with the young people and the aggregation of different complementary projects.

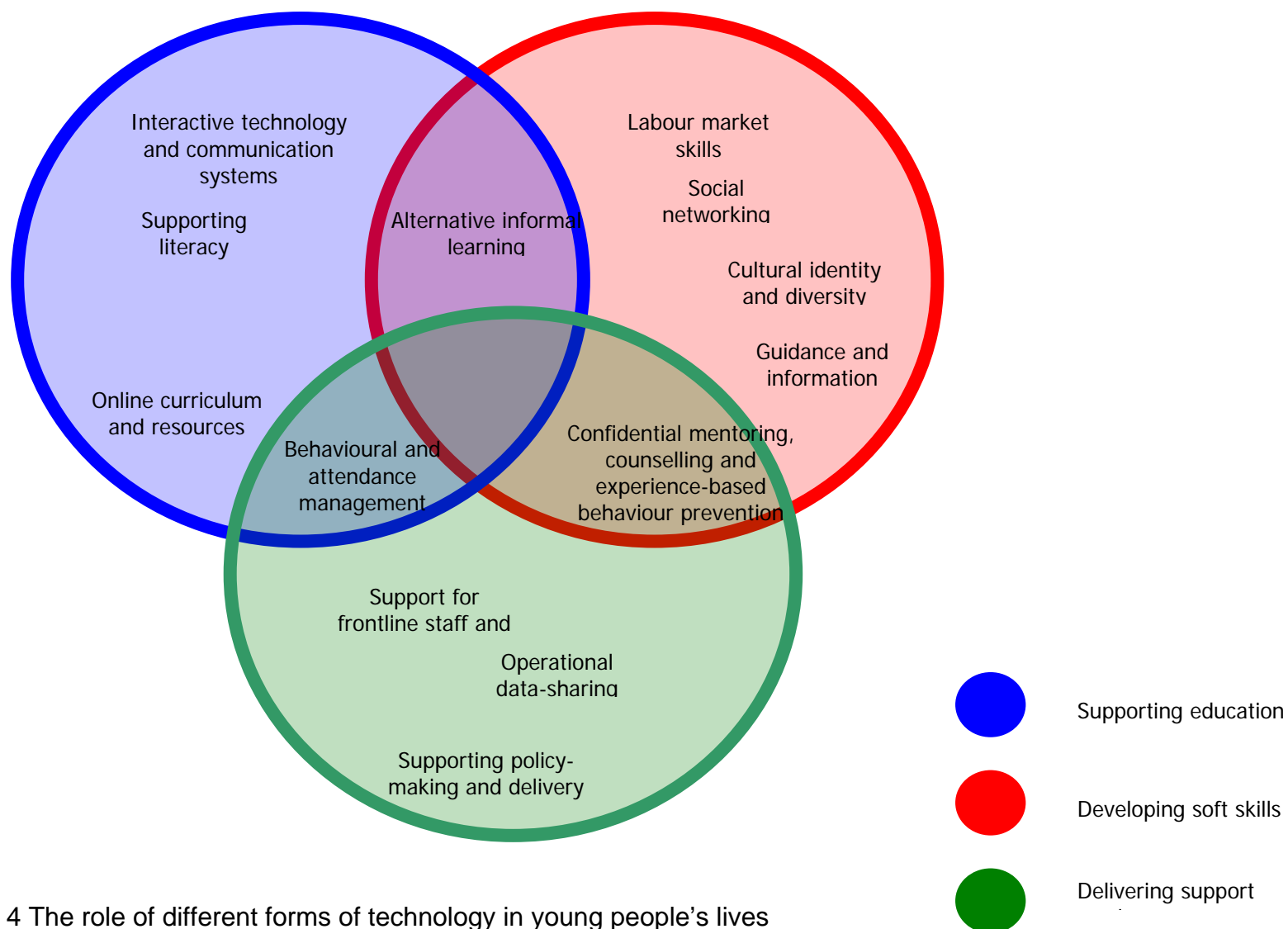


Figure 4 The role of different forms of technology in young people's lives

This can lead to the accusation that ICT is irrelevant to a project and merely an add-on. This is an unhelpful viewpoint for the following reasons:

- Digital exclusion can exacerbate and add another facet to disadvantage. Ensuring disadvantaged families make beneficial uses of technology is important in itself.
- ICT enables efficiencies; you can achieve more activity for less money with good use of the tools. Money saved could be used to expand successful projects.
- ICT enables entirely new ways of working: innovative applications can be developed which tackle old problems in new ways.
- Finally, ICT can be empowering; individuals and communities can re-invent their lives before full changes take place in physical and social infrastructure. Communities can meet online, second lives can be invented, and learning can take place in the way a learner prefers.

It is likely that efficiency gains require worked-up, holistic, person-centred approaches to the challenges of disadvantage and disaffection. A Connexions worker, for example, could ensure a young person is set up with text message reminders of appointments and receives sexual health information. The worker could maintain a relationship with the young person, between face-to-face meetings, through email and instant messaging. The worker could encourage the young person to explore his or her interests and identities through safe and anonymous online forums. The young person could be supported to contribute to the community through online democracy sites. Specialist PC games could be used to work through issues of abuse or offending, or to support inclusive learning.

The young person only requires one or two relationships with Government-funded individuals, but much more value can be gained if technology is involved. Mentors and trusted intermediaries can help young people who have had harsh childhoods to feel special and cared for. In the past, it has been difficult to fund these relationships to the extent needed. One person can now help mediate many different services and therefore create efficiency gains across Government. There are many possibilities.

To maximise the full potential of technology:

- The transformational government agenda is crucial to releasing efficiencies and changing service delivery.
- The transformative possibilities of technology need to be capitalised upon, with a greater focus on applications to alleviate disadvantage, particularly in the case of the personalisation of learning.

- Many issues must be accounted for and tackled simultaneously. A successful programme is likely to tackle many elements within the three-part framework to provide holistic and citizen-centric solutions.
- Stakeholders and partners must work consistently to ensure that all enabling factors are in place.

The next chapter examines government policy and asks how well government approaches are being taken.

Chapter 4

Policy response

The previous chapters discussed the factors that contribute to disadvantage and disaffection, the role of education in alleviating the challenges that individuals and communities face, and the opportunities offered by technology to deliver innovative and efficient solutions. Next, policy responses to these complex and interwoven agendas are examined. The key policy areas of community, family and education are considered and mapped to the Framework of Disadvantage.

Following the election of the Labour Government in 1997, community practitioners were overwhelmed by the depth of analysis of the challenges within disadvantaged communities and the scale of activity that ensued.

Government has made measurable progress on a number of fronts

Successes to date in alleviating disadvantage include:

- A reduction in child poverty. In 2002–03 there were 700,000 fewer children living in poverty than in 1996–97. By 2005, if the Government had taken no action, 1.5 million more children might have been in poverty.
- A large-scale expansion of nursery education and childcare services. Sure Start local programmes are now available to 400,000 children.
- Faster-than-average increases in employment among some disadvantaged groups, including lone parents and people with disabilities. Long-term unemployment among those aged 18–24 halved between 1997 and 2003.
- Educational attainment has risen at all key stages, and there has been progress in improving adult basic skills. Progress in schools in the most disadvantaged local authority areas has been faster than elsewhere. The National Literacy Strategy and National Numeracy Strategy, and area-based initiatives such as Excellence in Cities have been linked with these improvements.
- The number of homeless people sleeping rough has fallen by 70%, and there has been a 99.3% decline in the use of bed and breakfast accommodation for homeless families since March 2002.
- Youth offending has reduced and juvenile reconviction rates fell by one-fifth between 1997 and 2001. There has been a reduction in crime and the fear of crime, including among older people.
- The conception rate for girls under 18 has fallen by 9.4%.

- There are early signs that the gap between the most deprived local authority areas and the rest of the country is narrowing.

Social Exclusion Unit (2004)

4.1 The policy landscape and the emergence of technology

The government policies of most relevance to the areas discussed focus on families, communities and education.

Over the last 10 years, the Government has made education one of its major priorities, and policy has been directed at improving the quality of education for all, particularly in those schools which are facing the greatest challenges or are under-achieving. This has resulted in what has regularly been described by government ministers as 'one of the most ambitious programmes of education reform in the developed world'.³² These reforms have covered all phases of public education, from pre-school through to higher education and skills for the workforce.

The Schools White Paper (DfES 2005a) focuses on the personalisation of learning, along with other key agendas, such as strengthening the role of parents and local authorities within schools.

Schools' performance at supporting disadvantaged students can be measured by absolute attainment levels and 'contextual value added', which accounts for differences in pupil intakes. A DfES report (2002) estimates schools need an extra £1,780 per disadvantaged pupil per annum.

General policy on disadvantage includes the recent formation of the Social Exclusion Task Force,³³ which has a focus on identifying and targeting those at risk as early as possible, systematically identifying what works and promoting multi-agency working, personalisation of services and rigorous management of underperformance.

'Every Child Matters' (The Stationery Office 2003) had a major impact across many agendas, from schools to social services. SureStart³⁴ has addressed issues of the early years and the Respect task force³⁵ has been established to tackle antisocial behaviour.

³² Education can never stand still [<http://www.number-10.gov.uk/output/Page10502.asp>], 10 Downing Street.

³³ Social Exclusion Task Force [http://www.cabinetoffice.gov.uk/social_exclusion_task_force], Cabinet Office.

³⁴ SureStart [<http://www.surestart.gov.uk>].

³⁵ Respect [<http://www.respect.gov.uk>].

Technology has emerged as a sub-theme within the areas of families, communities and education. Programmes have included ensuring universal access to computers through the people's networks in libraries and the UK online centres;³⁶ the Wired up Communities project, which investigated the role of technology in the regeneration of communities,³⁷ and training teachers in the use of technology.³⁸ Further details of technology within policies for families and communities and within educational policy are given in Section 4.2.

The other relevant major policy theme is more generic and concerns the drives to ensure quality, efficient, joined-up delivery at the local level. Council performance is assessed through the Audit Commission's comprehensive performance assessment. Each comprehensive performance assessment round focuses on strategic themes, such as joined-up delivery. The Capacity Building Programme and the Beacon Council scheme are programmes to improve delivery and highlight good practice. These have focused on agendas such as social exclusion, effectiveness and efficiency, and ICT, among others.

Local authorities have become more responsible for strategic leadership, with a duty to prepare a sustainable community strategy (which sets the strategic vision for an area). This policy, from the local government white paper,³⁹ is supplemented by the requirement to prepare a delivery plan for the strategy in consultation with local partners, known as a local area agreement. Local area agreements are a new way of striking a deal between central Government, local authorities and major local delivery partners in an area. Authorities and their partners negotiate clear targets and outcomes for their areas, but have the freedom to decide how best to achieve them.

The integration of strategies and programmes needs to take place so that the entire impact is greater than the sum of the parts. Integration is needed at the local level, and though efforts have begun to achieve joined-up working, there is a long way to go. Local area agreements are one vehicle to drive efforts for integration, which focus around four themes:

- Children and Young People
- Safer and Stronger Communities

³⁶ People's Network [<http://www.peoplesnetwork.gov.uk/about.html>] and UK online centres [<http://www.ukonlinecentres.com>].

³⁷ Key findings included the importance of local content and the need for good technical support; Wired Up Communities [<http://www.dfes.gov.uk/wired>].

³⁸ 'Virtually all Schools are now Connected to the Internet – Ashton' [http://www.dfes.gov.uk/pns/DisplayPN.cgi?pn_id=2001_0334] DCSF.

³⁹ 'Strong and Prosperous Communities – The Local Government White Paper' (2006) [<http://www.communities.gov.uk/publications/localgovernment/strongprosperous>].

- Health and Older People
- Economic Development and Enterprise.

The development of children's centres and the extended schools initiatives are further attempts to create integrated solutions particularly for families.

Technology also emerges strongly within drives to create integrated programmes. Efficiency and effectiveness are key agendas for the Transformational Government strategy, which focuses on the role of technology in public service delivery. This was described in Chapter 3, Section 3.3, and includes a focus on mobile working, changes in the back office to key functions such as human resources and finance, and new ways of putting the citizen at the centre of services. Major challenges and strategic decisions have to be faced, for example the development of interoperable systems and choices about partnership working, outsourcing or business process re-engineering.

Innovation and product development was encouraged through the e-Innovations programme and the national projects. Forty-four e-Innovations and 22 national projects ranging from e-payments to digital TV as a communication channel have been completed. Over 1,800 products have been made available as a result of these and other related programmes to improve local authority delivery.⁴⁰ A review of the Digital Strategy is currently taking place with major input from the Digital Inclusion team of the Department for Communities and Local Government (DCLG), who have taken over a co-ordinating role since the demise of the e-Envoy's office (1999–2004) and locating the Transformational Government agenda within the Cabinet Office.

Technology began its role in government policy as an add-on, often with an experimental edge – a website as an additional way of communicating, a further tool for teaching, access to computers as an additional inclusion agenda, and so forth. Technology has since been viewed as a tool to transform service delivery and education, though challenges arise when access, skills and motivation to use technology are not universal for all citizens. A holistic, e-enabled approach to alleviating disadvantage could be viewed as the development of system e-maturity, a subject expanded upon below.

Major policies are summarised in the appendices.

⁴⁰ See ProductShare [<http://www.productshare.org>].

4.2 Policy mapping

As discussed in chapter 2, the spectrum of disadvantage and exclusion begins in its mildest form as disadvantage and moves through to social exclusion and on to deep exclusion. Policies are either spread across the spectrum or targeted on particular areas, and are relevant to specific tiers of the Framework of Disadvantage. Table 3 illustrates how community, family and educational policies can be mapped to the Framework of Disadvantage and the spectrum of disadvantage and exclusion.

Tier	Relevant government policy focused on positive outcomes		
	Disadvantage	Social exclusion	Deep exclusion
1. Physical and socio-economic infrastructure	<p>-----Build community cohesion-----</p> <p>-----Improve social housing-----</p> <p>-----Reduce crime in high crime areas-----</p> <p>-----New Deal for Communities-----</p> <p>----Schools White Paper (DfES 2005a) for improvements in investment---</p> <p>-----UK online centres and Learn Direct-----</p> <p>---Collaborative teaching and learning through ICT, e-Strategy---</p>	<p>-----Focus on poverty reduction-----</p> <p>-----Reduce workless households-----</p> <p>-----Computers for Pupils-----</p> <p>-----Literacy and numeracy strategies-----</p>	
2. Relationships and socialisation	<p>-----Skills strategy-----</p> <p>-'Youth Matters' (DfES 2006d) young people shaping local services-</p> <p>-----'Teenage Pregnancy: Accelerating the Strategy to 2010' (DfES 2006c)'-----</p> <p>-----The Respect task force looking into behaviour and how to improve it-----</p> <p>---Connexions programme of advice and guidance to teenagers (under review)---</p>	<p>-----A more personalised service for adults with multiple problems (SETF)-</p> <p>-----Not in Employment Education or Training focus-----</p> <p>---Lead professionals for each child with additional needs ('Every Child Matters')---</p> <p>-----Extended Schools work-----</p> <p>-----Increase voluntary and community engagement-----</p>	
3. Identity and internalisation	<p>-----Focus on reducing obesity-----</p>	<p>-----Sure Start local programmes-----</p> <p>-----Strategy for helping teenage mothers, young fathers and their families--</p> <p>-----Identifying and targeting those at risk early-----</p> <p>-----Parenting support programmes for at-risk families-----</p>	<p>---More problem drug users on programmes---</p>

Table 3 Community, family and educational policies mapped to the Framework of Disadvantage and the spectrum of disadvantage and exclusion

Table 3 demonstrates how the Government has a wide range of activities that aim to tackle some of the issues within the Framework of Disadvantage. According to the analysis within the current report, policy must be complete and sustained across the framework so that the individual, family and community are supported, and areas where increased impact and efficiencies can be made are recognised. The next section examines the potential role that ICT has to play in supporting these activities.

4.2.1 ICT in family and community policy

Government policy has focused on different aspects of the digital inclusion agenda, addressing issues of access and skills (through UK online centres and Learndirect), content (through DirectGov, MyGuide, Culture Online, etc), and the development of e-government services and marketing (eg e-Citizen project).

A major attempt to create joined-up solutions for the community and family has taken place through the Digital Challenge, one of the eight activities which contribute towards the Digital Strategy. Local authority finalists interpreted the vision of digitally enabled areas into a range of activities, such as ICT-enabled communities, co-ordinated e-government services, telecare projects and skills development. It is hoped that the activities of the winner and other finalists will lead to innovation and good practice that can be shared elsewhere.

A general weakness in policy is the support of more excluded people to gain skills and employment. Strategies to date are likely to leave a more excluded family stuck in receipt of services and not progressing into self-sufficiency. This is because skills strategies focus strongly on the need of employers and attainment targets. A strong bridge is needed between social inclusion and employability programmes. Numerous studies (Berry et al. 2002) have shown that confidence, softer skills and basic skills need to be built in informal community settings. UK online centres and other community-based projects, often focused on ICT, have helped bridge this gap, but are not well funded generally (Bradbrook and Fisher 2004).

For the most excluded, there is a focus on intensive programmes that include single relationships with key workers. These programmes mostly rely on technology for data-sharing and mobile working to create effectiveness and efficiencies. The technology allows a key worker to bring in other experts as needed, thereby supporting an excluded person from many perspectives, such as literacy, health, parenting, and so on.

Support for disadvantaged (but not deeply excluded) families seems particularly weak. Social and cultural capital needs to be enhanced if disadvantaged young people are to reach their potential. ICT has a clear role to play if used well, as reviewed in chapter 3. However, as discussed, it is important to address the fact that outcomes of ICT use are not equal (Facer and Selwyn 2007).

4.2.2 ICT and educational policy

Government policy has shifted over the past four years from an emphasis on providing schools with technical infrastructure through the National Grid for Learning (Dale et al. 2004) to using kit more effectively (Clarke 2004) and personalisation 'so that the system fits to the individual rather than the individual having to fit to the system' (DfES 2004). Digital technologies are a key component in developing personalised approaches, with a focus on collaborative approaches to teaching and learning through ICT and a commitment to better training and support for teachers and education support staff (DfES 2004).

The Schools White Paper (DfES 2005a) states: 'ICT provides a powerful tool to tailor teaching and learning. Good schools already use ICT to deliver exciting, multi-media lessons; to set and mark work online, providing immediate feedback to children, teachers and parents; and to link the classroom and home, so that the materials children are studying in class are available beyond the school gates.' 2008 was set as the date by which all schools would be able to offer access to e-learning resources both in and out of school, as well as a personal online space for every pupil.

In March 2005, the Chancellor announced a £50 million scheme, 'Computers for Pupils', to put ICT into the homes of the most disadvantaged pupils, with a further £10 million of revenue funding announced in the March 2006 budget specifically to ensure that pupils targeted by this initiative have safe internet access. The funding is targeted at Key Stage 3 and 4 pupils resident in the 10% of most deprived areas in England.

In his opening speech at BETT in January 2007, the Schools' Minister (Jim Knight) announced that the Government is to set up a task force to ensure that all children have access to the internet outside school. He said that more than 800,000 children and young people in England are currently not online at home and Government wants to close the digital divide. The announcement of a task force followed an initial internal study by Intel, Dell and RM, which concluded that universal access could be made possible through partnership between Government, private and voluntary sectors.

Extended schools also provide ICT access out of hours and beyond the traditional school year. Access should be available throughout the calendar year for at least 10 hours per week and be open to all members of the community.

The success to date of extended schools initiatives⁴¹ highlights the importance of providing opportunities for young people to develop their social and cultural capital.

⁴¹ <http://www.dfes.gov.uk/research/data/uploadfiles/RR795.pdf>

One important way of helping young people develop these capitals is through mentoring. However, the role and importance of mentoring is not clear in policy, and the changes currently taking place in the Connexions programme⁴² may weaken the mentoring element for teenagers.

The extended schools initiative needs to be complemented by a strengthening of the local voluntary and community sector, with ICT-enabled links made between the two, so that the onus of raising teenagers is shared across the community.

4.3 System e-maturity

4.3.1 The need for system e-maturity

The understanding of the potential role of technology in the agendas discussed has developed over recent years. Policies began with a concern that unequal access and use of technology would contribute to further disadvantage and exclusion. As a result, initiatives were developed to address this, so that disadvantaged people would have direct use of technology. These include UK online centres and Computers for Pupils.

It was also realised that technology can play an indirect role in a person's life, ie without them having direct contact with the ICT (this was the focus of Chapter 3, Section 3.3). Relevant policies focus on improving public sector service delivery (the majority of government services are used by disadvantaged people), and include the national projects and e-Innovations.

Thus the term 'digital inclusion' has evolved and is now defined as 'the use of technology, either directly or indirectly, to improve the lives and life chances of disadvantaged people and the places in which they live' (Digital Inclusion Team 2007).

Current and future developments should involve bringing together pockets of digital inclusion activity along with creating joined-up working and transformational government. A focus can then be made on system change through e-maturity. System e-maturity is reached when all the stakeholders make appropriate use of ICT to optimise effectiveness and efficiency in delivering outcomes to alleviate disadvantage. Technology will be embedded across the policy spectrum, enabling the integration of different agendas to create citizen-centric, holistic programmes. This process is illustrated in Figure 5.

⁴² A programme of advice and guidance for teenagers, which includes Connexions workers developing relationships over time. Currently under review as part of Every Child Matters.

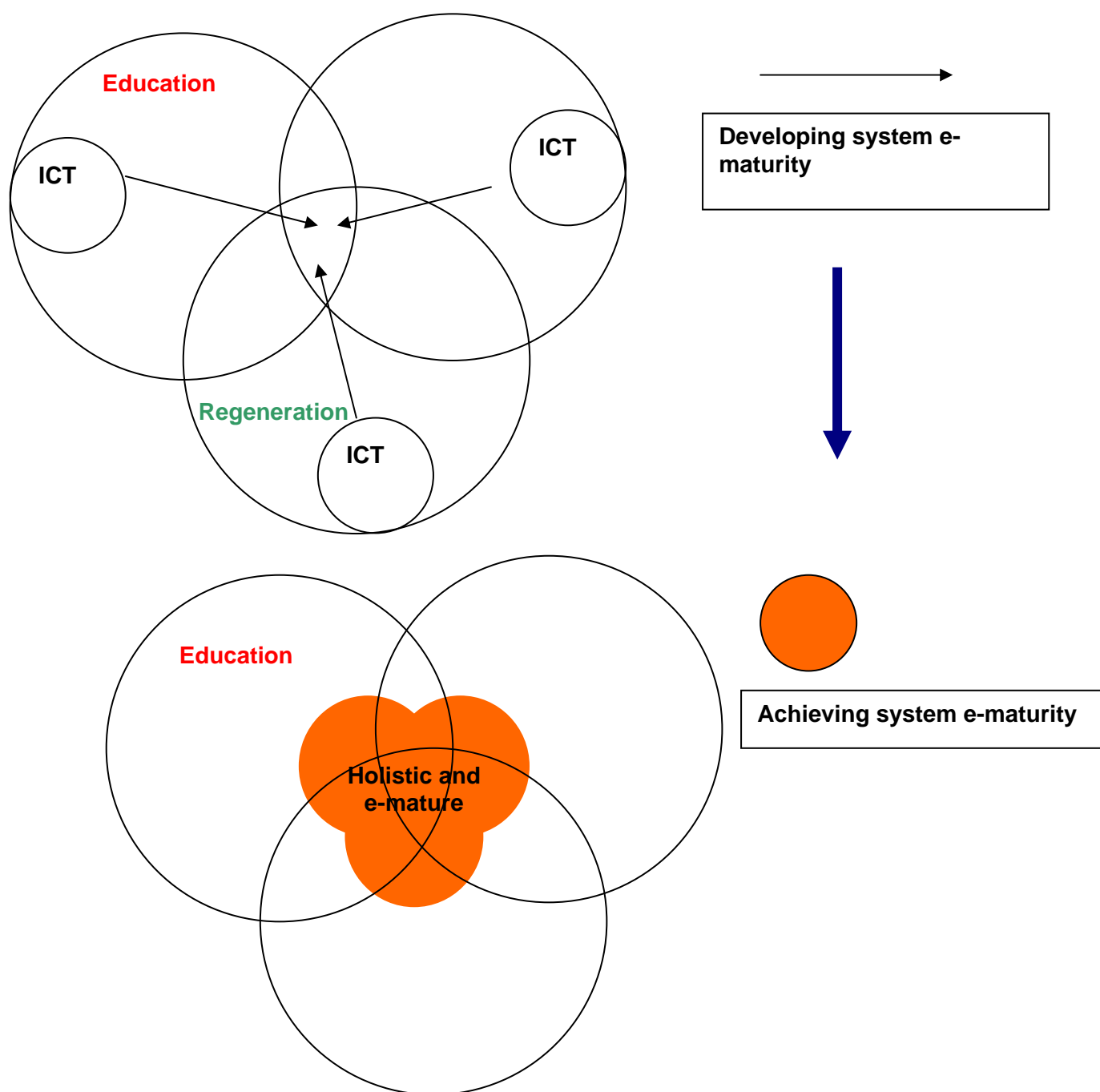


Figure 5 Schematic view of the requirements for system change

4.3.2 Achieving system e-maturity

Developing a vision and understanding of the best role for technology is one element within system e-maturity.

The best technologies to alleviate disadvantage are hard to define because many factors relating to individual and context must be considered. The most appropriate technologies for a given outcome are not necessarily those already used by the individuals in consideration. Access to a variety of technologies, appropriate to context, is important, and broadband connectivity is the underpinning technology.

An important policy question is ‘Should services, support and education be enabled by the technologies that a person is comfortable with and/or owns already, even if the technologies are less appropriate to perform a certain task, or should individuals be supported to use appropriate technologies, even if that implies government subsidy?’ Either is possible, and the options must be assessed within the context of developing system e-maturity. However, it appears that the former option is assumed, presumably because it appears to be cheaper, although it may not be when the overall value is taken into account.

There is a growing body of evidence of the costs – benefits claims, crime, health problems, etc – of social exclusion. These were outlined in Chapter 2.

It would be beneficial to make a business case for the technology-enabled, personal support of families with issues of social exclusion. This would include developing scenarios for the best use of technology and the related costs. The business case would include the fact that every individual who is digitally included contributes £229 of GDP over three years (Freshminds and UK Online Centres 2007). Many agendas could be focused on simultaneously – for example, literacy, health, parenting, etc – with an overarching aim of increasing people’s sense of self-worth and enhancing their social and cultural capital. It is likely that the costs could be justified through the financial savings made as well as through the improved outcomes for disadvantaged people.

4.3.3 Measuring system e-maturity

Frameworks for assessing e-maturity have been developed for schools and further education colleges.⁴³ They focus on areas of leadership and management (vision, strategy, effectiveness and efficiency, evaluation and monitoring); how change is planned, undertaken and reviewed; how training and technology resources enable use; and the forms that use takes.

⁴³ See for example, Becta’s self-review framework for schools [<http://schools.becta.org.uk/index.php?section=srf>].

These frameworks could be built upon to help local authorities assess their use of technology for alleviating disadvantage.

One tier above the frameworks for assessing e-maturity, a framework for assessing e-maturity across Government could be developed to ensure that new policy areas and programmes of delivery always consider and include the role of technology.

An e-mature Government deploying technology to its fullest capability has the best chance of alleviating disadvantage.

The next and final chapter draws together the findings of this report and develops a set of recommendations for action.

‘Schools cannot be held solely responsible for ‘closing the gap’. Schools in communities damaged by generations of underachievement, unemployment and social fragmentation rightly expect other agencies to help them tackle systemic barriers to raising the aspirations of children, parents and teachers. Local implementation of the Every Child Matters agenda offers the opportunity to improve continuity and progression in learning for children at risk of falling behind.’

DfES (2006e)

“Evidence from Ofsted and others shows clearly that it is not school structures that have the greatest influence on pupil outcomes. What really makes a difference is institutional and professional leadership, the quality of teaching and learning, the curriculum offer, parent engagement and resources.”

Carol Adams, Chief Executive of the GTC, January 2006

Chapter 5

Conclusions and recommendations

This report has reviewed literature, policy, practice and the opinions of leading professionals in the public, private and not-for-profit sectors. The conclusions of this work are presented next, along with recommendations for action.

5.1 Key findings

Education is a way to overcome disadvantage, though this is complex to achieve

Breaking the cycle of disadvantage that some young people face is a multi-layered issue. Disaffected and underachieving young people can embark on a path to failure at a young age, with problems of unemployment, poor health and so forth being compounded over generations.

Education has long been seen as a way out. However, there is a wide-ranging debate on the factors that contribute to successful education, and this continues in the context of a digital age. Leadership within schools and communities and parental involvement are major contributors.

Unequal use of technology is causing further problems, but ICT also offers opportunities

There is an ongoing digital inclusion agenda for disadvantaged young people, which focuses on unequal opportunities to use ICT and less beneficial forms of use. Digital exclusion can exacerbate disadvantage, yet ICT can also offer more effective ways to educate, along with innovation in delivery of public services.

Providing technology alone is not enough to make a difference

Simply providing technology to a young disadvantaged person, or using ICT within a traditional pedagogy, is unlikely to succeed in alleviating disadvantage or increasing aspirations and attainment, and thus research sometimes fails to demonstrate the benefits of ICT. This is often because provision of ICT hardware is insufficient. In education, teacher training and pedagogy, parental support and a flexible and creative approach to curriculum materials is also needed. Hence, while personalisation of learning is plausible, it clearly needs the right context to succeed.

Additionally, education and technology projects must be understood within the Framework of Disadvantage, which considers external physical factors, such as a deprived community, and relational factors such as low social and cultural capital and negative internalisation leading to low self-esteem. Projects in which several aspects of this framework are tackled are much more likely to be successful.

Research demonstrates the benefits of technology in education when a wider perspective is taken, although some will remain cautious and skeptical because evidence of simple, direct benefits is not always clear.

ICT supports new pedagogies, different learning styles, soft skills development and personalised learning. ICT accords value to disadvantaged children by giving confidence, enhancing self-esteem and providing alternative approaches to communication and self-development, thus mobilising positive attitudes and engagement with learning.

Wider uses of technology by young people, and subsequent benefits, need to be considered

A well-resourced young person can make use of technology to develop both hard and soft skills. The technological opportunities available to them, along with a variety of support mechanisms, help to secure further resources, improve education, save money, get better services, and so on. These opportunities need to be made available to young disadvantaged people.

Learning is not only an individual cognitive process but is also a social and emotional interaction. Hence the importance of using ICT to support communication and social networking, games and other entertainment applications. These can build social capital and positive attitudes, which can then be mobilised around educational outcomes.

Indirect uses of technology can also benefit disadvantaged young people; any projects and services must focus on empowerment and personalisation

Technology innovation offers more efficient and effective solutions to old problems. Therefore the indirect use of technology to support service delivery to disadvantaged young people is a vital component of the framework. Policies can be better informed, programmes better targeted, techniques and resources more easily shared, staffing used more effectively, relationships maintained with frequency over a longer period. What may have been seen as too costly in the past may be affordable now.

Working with disadvantaged and disaffected young people, their families and communities must include empowering people to make their own choices. Initial engagement is more likely to succeed when it focuses on people's interests and preferred modes of participation. The mutual goal is then to establish support and educational systems, redesigned with ICT that are personalised and applied to maximise young people's potential.

Partnerships are needed to underpin this change towards e-maturity

A clear message from almost every report on community regeneration and social inclusion is the need for partnership working between Government, industry and the third sector.

The private sector has been mistakenly engaged with in the belief that it should provide handouts as part of its corporate responsibility, when there are much richer opportunities to work with the private sector.

The third sector, while being expected to provide cheaper and more effective solutions, is also increasingly expected to become more businesslike. Capacity-building activities and sustained partnerships will make all the difference.

It is also worth noting that industry has yet to rise to the challenge of supplying sufficiently cheap and reliable equipment to underpin digital projects.

In summary, the embedding of sustainable technology across the Framework of Disadvantage is essential to achieving holistic and personalised programmes of activity. This requires the integration of efforts to promote digital and social inclusion, to improve and personalise education and to transform Government. This can be considered as the development of e-maturity from the local level upwards.

5.2 Key recommendations

Four opportunities exist for maximising the potential that ICT offers in enhancing education and alleviating disadvantage:

- Clarify how ICT-enabled projects work to achieve best practice
- Enable and promote support and good practice
- Scale up projects that succeed and have good business cases
- Promote e-maturity from the local level upwards.

1) Clarify how ICT-enabled projects work to achieve best practice

Evidence for the success of projects is minimal due to a lack of robust evaluations. More research is needed to clarify which ICT uses are considered to have beneficial effects, assess the extent to which socio-demographic variables affect the disposition to use ICT in a beneficial fashion, and understand the effectiveness of interventions designed to encourage such beneficial use.⁴⁴

⁴⁴ DiMaggio *et al.* (2004) provide a useful agenda for future research in their literature review.

Recommendation: Ensure technology projects are well evaluated, particularly for their ability to alleviate disadvantage and disaffection.

Interviews with stakeholders for this research strongly identified leadership as an essential part of good programmes of work within and outside schools. Continuing professional development was also seen as essential, along with strong dissemination of good practice. This review suggests that the building of social and cultural capital is an essential part of a programme of work to alleviate disadvantage, along with holistic coverage of the tiers within the Framework of Disadvantage. These factors seem essential to the success of the application of ICT-enabled solutions, though there may be other factors also.

Recommendation: Clearly define success criteria for ICT-enabled programmes, focused on disadvantage and disaffection.

2) Enable and promote support and good practice

Good practice relating to the support of young people outside school hours and the development of e-mature schools is relatively well understood and needs to be supported; for example, through programmes and agencies that deliver training, advice and good practice examples (for example, DfES 2005b).

ICT access outside the formal educational environment, and in particular at home, needs to be understood as a basic educational entitlement. This must, however, be balanced by a consideration of concerns about excessive ICT use, particularly by younger children.

Recommendation: General ICT access at home and in public spaces outside school hours must be made available to all young people undertaking homework. Teenagers should be entitled to private, flexible access to ICT, which can include extended use in schools or other public arenas.

Recommendation: Ensure that concerns about technology are thoroughly researched, especially for younger children at crucial stages of development. Ensure technology-focused learning is balanced by face-to-face interactions and time spent outdoors.⁴⁵

Parents need to be engaged with generally in the school life of their children and guided in how to support their children's use of technology for learning and soft skills

⁴⁵ The recently announced Byron Review (see 'New Review Helps Children and Parents get the Best from New Technologies, while Protecting them from Harmful Images' [http://www.dcsf.gov.uk/pns/DisplayPN.cgi?pn_id=2007_0158], DCSF) may go some way towards this.

development. Additionally, some parents may find communicating with the school authorities less intimidating online.

Recommendation: Develop toolkits for parents (which avoid learning-related jargon) and give basic information on ICT as a learning and soft-skill tool. Help parents help their children achieve useful learning outcomes using tools the children want to use (for example, games). Additionally, promote home–school links with the support of technology.

Schools need adequate resources and support to continue on their journeys with technology and integrate some of the many emerging agendas. It is particularly important that resources are targeted so they benefit disadvantaged and disaffected young people.

Recommendation: Continue the ongoing work to develop e-mature schools, particularly for those schools with a high intake of disadvantaged children and young people.

Training of teachers emerged as a key theme during stakeholder interviews. Teachers should integrate children's present internet use practices into teaching. This could include encouraging young people to compose the weblog postings some of them are already making, perhaps studying some in English class, or studying in art class the pictures they take and publish online.

Recommendation: Improve continuing professional development of teachers, with ICT at its core, especially the development of the pedagogy of e-learning/blended learning and personalised learning. Ensure young people have a voice to express their wishes and aspirations for technology use and that teachers understand how to tap in to the current, creative ways in which young people use technology in their lives outside school.

Consistency of high-quality e-learning materials is important for all levels of ability and, in particular, for all socio-economic groups.

Recommendation: Put greater emphasis in the curriculum on higher-order thinking, knowledge discovery and research, rather than on IT skills.

Recommendation: Now that BBC Jam is cancelled, provision of similar free materials is needed or the original decision should be reconsidered.

3) Scale up projects that succeed and have good business cases

The Government is often accused of having too many pilots and not scaling up projects that succeed. Government alone does not have sole responsibility for scaling up pilots, but it provides the majority of funding and can sustain the forums

for partnership. Progress has certainly been made in partnering with industry and the third sector, but there is a long way to go.

It is beyond the scope of this report to describe the success factors for these partnerships, but numerous sources exist.⁴⁶ A key point is the need for ongoing, long-term forums, allowing partners from different sectors to come together, share perspective and good practice, and establish relationships over time.

“As early adopters of technology we were seen as forward thinking, but then missed out on all the subsequent funding!”

Primary school head teacher

Recommendation: Establish long-term, tri-sector partnerships to support business case development for successful projects and scaled-up delivery in partnership.

4) Promote e-maturity from the local level upwards

An ongoing process can be observed, involving the technology enablement of programmes to alleviate disadvantage and improve service delivery while ensuring that citizens have appropriate access to ICT and an ability to make the most beneficial use of it. This process needs to be supported until the development of critical mass creates systemic change through e-maturity. This takes place largely at the local level, but includes strategic direction set at a national and regional level and the development of suitable policies and funding levers.

Recommendation: Support the increased understanding of the role and potential of technology among key stakeholders at national, regional and local levels, through the sharing of case studies, evidence and visionary scenarios.

There are many opportunities to extend the value of technology, given the numerous agendas and programmes in operation. ‘ICT-proofing’ – ensuring that technology opportunities are not missed – needs to take place across all relevant areas. As different elements of a holistic, person-centred approach are recognised and constructed, strong leadership needs to build on foundations, transform processes and condense programmes so they work in accord. Technology, of course, is

⁴⁶ See, for example: Cabinet Office (2004), ‘Enabling a Digitally United Kingdom’ [<http://www.cabinetoffice.gov.uk/upload/assets/www.cabinetoffice.gov.uk/publications/reports/digital/digitalframe.pdf>]; Business in the Community (2003) ‘Digitally included: business–community partnerships to promote the use of information and communication technologies’; Compact [<http://www.thecompact.org.uk>].

essential to this, but people and culture-change activities are key to promoting progress.

Recommendation: Establish digital champions for local area agreements and local partnerships, and offer external and peer support networks for the development of cross-cutting digital strategies.

It is key that frontline workers work to a core script of agendas (for example, literacy, health, educational progress, good parenting, etc). Any specialists – for example, health visitors or social workers – will then understand the variety of issues faced by their clients and how they interrelate, and can mediate between relevant services. For more-excluded families, it may be valuable to formalise the intermediary role into a specific job.

Recommendation: For more-disadvantaged families, a new job role of family support agent should be created in which health, education and social work agendas are mediated by one main person who links to other key staff as needed (enabled by ICT).

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Appendices

A1 Brief methodology

This work is a review of current information (rather than primary research).

Around 200 articles from the literature, policy documents and (generally unevaluated) case studies or examples of projects were reviewed. Desk-based research was largely undertaken using relevant search terms and guidance from known researchers in the field.

Six stakeholders from the public, private and not-for-profit sector were interviewed, and the authors' relevant experiences as researchers and workers in the charitable sector were drawn on.

The authors sought to synthesise findings to draw out new insights.

A2 Description of relevant government policy

Family- and community-focused policy

The Social Exclusion Task Force creates a new focus for activity

The Social Exclusion Unit,⁴⁷ which was founded in 1997, has recently (June 2006) been transformed into the Social Exclusion Task Force based in the Cabinet Office and led by Naomi Eisenstadt.

The role of the Social Exclusion Task Force is to co-ordinate the Government's drive against social exclusion, ensuring that the cross-departmental approach delivers for those most in need. Efforts are to be shifted from 'treatment' to 'prevention'.

The five operational principles guiding the Social Exclusion Task Force's approach clearly need ICT to underpin them for success. The principles are:

- 'Identifying and targeting those at-risk as early as possible by developing and promoting better prediction tools and ensuring that those identified as "at risk" are followed up.
- Systematically identifying "what works" by bringing together best practice in a Centre for Excellence in Children's and Social Services, which will highlight programmes and providers with strong evidence of positive, cost-effective results.

⁴⁷ The SEU produced over 40 reports in its lifetime and focused on six research and project areas: children and young people, crime and fear of crime, employment and opportunity, health and care, homes and neighbourhoods, and transport.

- Promoting multi-agency working by strengthening the role of local area agreements, publishing information about the cross-agency costs of social exclusion and exploring how to extend the duty to share information between agencies in relation to the most excluded.
- Personalisation of services, to make them customer centric, tackled through pilots exploring budget-holding lead-practitioners who ensure tailored programmes of support are built around strong and persistent relationships with those “at risk”.
- Rigorous management of underperformance by working across Government to ensure that the next generation of public service agreements adequately address the needs of the most excluded and considering in the forthcoming local government white paper a clear ladder of intervention around underperformance, while at the same time giving effective service providers more room to innovate.’ (Social Exclusion Task Force 2006)

The Social Exclusion Task Force’s 2006 action plan on social exclusion includes a number of priorities designed to improve the life chances of children and young people with significant progress made so far⁴⁸.

Younger children

Achievements have been made by working to tackle child poverty, establishing Sure Start children’s centres and creating the National Academy for Parenting Professionals.

International evidence suggests that intensive health-led home visiting during pregnancy and the first two years of life can radically improve outcomes for both mother and child, particularly in the most at-risk families; therefore Government intends to:

- establish 10 health-led parenting support demonstration projects from pre-birth to age two, building in a rigorous evaluation of different levels of targeted support
- work with midwives and health visitors to improve their skills to promote support and intervention during the early years
- develop commissioning guidance to encourage the spread of best practice nationally.

⁴⁸ http://www.cabinetoffice.gov.uk/social_exclusion_task_force/progress.aspx

Older children

Young people aged between 16 and 25 suffer disproportionately from many different types of disadvantage, including homelessness, worklessness, lack of training or education, poor health (in particular, mental and sexual health) and are at high risk of becoming involved in antisocial behaviour, drug use, and crime.⁴⁹

Barriers exist, in particular for young people with a range of problems that need a range of interventions from services that may not work well together. Those particularly at risk include children in care, teenage parents and those with the lowest educational achievement; these groups significantly overlap.

'Every Child Matters' (The Stationery Office 2003) is considered to be transforming children's services and bringing many important innovations. The 'Every Child Matters' green paper identified the five mutually reinforcing outcomes that are most important to children and young people:

- Be healthy
- Stay safe
- Enjoy and achieve
- Make a positive contribution
- Achieve economic well-being.

'Youth Matters' (DfES 2006d) focused on engaging young people in shaping local services. As a result, subject to parliamentary approval, a new duty on local authorities will ensure that young people have access to a wide range of positive activities. A fund of £115 million will be available over two years with a focus on disadvantage. Fourteen pathfinders are testing how integrated targeted support might be delivered.

Teenage pregnancy is a focus for Government

The Department for Education and Skills (DfES) extended the Teenage Pregnancy strategy in September 2006 with its guidance document 'Teenage Pregnancy: Accelerating the Strategy to 2010',⁵⁰ which introduces a wider approach to teenage pregnancy, recognising the role that underlying causes such as exclusion play. The document sets out how the strategy needs to develop to take account of the growing body of evidence of what works in areas with sharply declining pregnancy rates, and

⁴⁹ Many of these issues are thought of as the problems of teenagers, but in fact many are as bad (or worse) for those in their early twenties, on whom much less policy has been focused the phenomenon of 'the invisible early twenties'.

⁵⁰ 'Teenage Pregnancy: Accelerating the Strategy to 2010'
[<http://www.everychildmatters.gov.uk/files/94C1FA2E9D4C9717E5D0AF1413A329A4.pdf>].

be broadened to reflect new analysis on the underlying causes of teenage pregnancy. A decline in rates suggests the strategy is working.⁵¹

The Respect task force is looking into behaviour and how to improve it

Established as a cross-governmental organisation in September 2005, the Respect task force⁵² is headed by Louise Casey. It develops policy and works closely with local areas to ensure that the Respect programme is delivered.

The Respect drive builds on what has already been achieved in combating antisocial behaviour and goes further to tackle the causes of antisocial behaviour and prevent the next generation becoming involved. It recognises the importance of early intervention in families, homes and schools to prevent the behaviour of children and young people who are showing signs of problems from getting any worse.

Key measures of the Respect drive include:

- a new approach to tackling problem families through intensive family intervention programmes
- a wide-ranging programme to address poor parenting: additional investment will be available to fund parenting programmes across the country
- strengthening communities through more responsive public services: local services will be encouraged to hold regular face-the-people sessions
- improving behaviour and attendance in schools: targeted action on persistent truants and a range of new measures to tackle poor behaviour in schools
- the funding of constructive activities for young people, such as youth intervention projects and sports programmes.

Constructive activities can offer young people a diversion from involvement in antisocial behaviour at an early stage. Positive Futures (2006)⁵³ has reported that:

- three-quarters (76%) of local partner agencies suggested that antisocial behaviour rates had fallen

⁵¹ 'Teenage Pregnancy Rates Continue to Fall'
[http://www.dfes.gov.uk/pns/DisplayPN.cgi?pn_id=2007_0092], DCSF press notice.

⁵² Respect [<http://www.respect.gov.uk>]; DfES, DWP, Department of Health (DoH), Department for Culture Media and Sport (DCMS), Criminal Justice System, DCLG, Home Office, Department for Constitutional Affairs (DCA) and Youth Justice Board are all involved.

⁵³ Positive Futures is a national social inclusion programme using sport and leisure activities to engage with disadvantaged and socially marginalised young adults.

- two-thirds (68%) of agencies suggested a fall in crime.

Concerns have been raised over the Government's strategy for antisocial behaviour, especially its use of antisocial behaviour orders (ASBOs)

A Home Office report (2006) revealed a dramatic rise in ASBO use. In 2005, 4,060 ASBOs were imposed – treble the number issued in 2003.

Research has shown that one-third of under-17s issued with an ASBO have a diagnosed mental health disorder or learning difficulty (British Institute for Brain Injured Children 2005). A recent Youth Justice Board report (2006) also found that:

- one-fifth of young people who had been given ASBOs were black or Asian – two and a half times the proportion of people from ethnic minorities in England and Wales
- almost half of the ASBOs had been breached
- many young people did not understand what their ASBOs banned them from doing – making them more likely to breach their order
- the overuse of ASBOs has led many youngsters to regard them as a badge of honour.

Families

The Social Exclusion Task Force is leading a cross-Whitehall review on excluded families, to be published in summer 2007. The aims of the review are to:

- set out a vision of an effective family support system for families with additional or complex needs
- identify barriers and practical solutions to the provision of a coherent whole-family approach for these families; a key focus will be on how adults' services respond to their clients as parents or carers
- agree action to better integrate adult, child and community services around the needs of excluded families to tackle the drivers of deep-seated exclusion.

In November 2006, the Department of Health and DfES invited applications from primary care trusts and local authorities wanting to become demonstration sites for parenting support programmes for at-risk families.

The focus of the parenting support programmes is on prevention and early intervention for at-risk families, with sites also being expected to move towards a model of 'progressive universalism' – ie evidence-based interventions – for those with greatest needs, and a light touch for lower-need families.

The local government white paper looks at the role of local government in tackling disadvantage

The paper aims to rebalance the relationship between central Government, local government and local people to give local people and local communities more influence and power to improve their lives.

Emphasis is put on local government engaging with their communities, and frameworks have been constructed to make local government more accountable to the public through a new community call for action.

Local authorities have also been made more responsible for strategic leadership, with their present duty to prepare a sustainable community strategy (which sets the strategic vision for an area) being supplemented by the requirement to prepare, in consultation with local partners, a delivery plan for the strategy, known as a local area agreement. These extra responsibilities will be assessed through a simplified performance framework and efficiency targets.

It is worth mentioning that a number of ongoing community regeneration programmes continue and many have undergone interim evaluations. These include the New Deal for Communities, Neighbourhood Management and Excellence in Cities.

Education

The 2005 Schools White Paper set out a new phase of reform in the education system

The 2005 Schools White Paper 'Higher Standards and Better Schools for All' (DfES 2005a) states that 'No longer will it be acceptable for young people to be denied the opportunity to achieve their full potential, whatever their abilities and talents; or for artificial barriers to prevent choice and diversity from playing its full part in delivering a good education for every child.' Key messages are:

- Giving parents a say in how schools are run
- Tailoring tuition to the needs of each young person
- Reforming schools to give them the freedoms and flexibilities to deliver tailored learning and offer parental choice to all
- Giving teachers a right to discipline young people and hold parents accountable for the behaviour of their children
- Giving local authorities a strong new role as the champion of parents and pupils.

Reform includes four main features: investment; accountability and intervention; choice and diversity; and changes in the classroom, curriculum, and qualifications

- Investment - Extra funding has been provided to help to recruit, retain and train more practitioners, and to equip schools with more computers and interactive whiteboards, and provide broadband, with an eight-fold increase in the funding for new school buildings. However, effects at the local authority level tend to flatten the distribution of funds, so that the money does not end up being targeted at the most disadvantaged (Kelly 2006).
- Accountability and intervention - The role of the Office for Standards in Education (Ofsted) has included setting minimum goals for the weakest schools and areas, with the aim of driving up standards and, with support, helping failing schools improve (with those that don't improve being replaced or closed). English school results are published annually in performance tables, and school inspection reports are openly available on the Ofsted website.
- Support for greater choice and diversity - 'Good' schools have been encouraged to opt for greater independence. More than four-fifths of secondary schools are now specialist schools in areas such as technology, languages, performing arts, etc. Academies (independent state schools) are now opening, with 400 planned. All schools now have substantial control over their budgets, and some opt for greater freedom over land, staffing and governance as trust schools or foundation schools.
- Changes in the classroom, curriculum and qualifications - Personalisation of learning is the current focus of attention, and there are important developments in education for 14- to 19-year-olds. New diplomas in 14 subject areas will combine practical English, maths and IT lessons with skills for work and specialised experience and study of subjects such as engineering, construction, IT and hospitality. Diplomas will be available in three levels up to A level standard. There will also be more apprenticeships for those who want to train in the workplace. GCSEs and A levels are being strengthened, with more emphasis on English and maths, less coursework at GCSE, and more end-of-course assessment at A level.

The wider environment around a school is important to disadvantaged and disaffected young people

'Every Child Matters' (The Stationery Office 2003) also works in a wider context around schools and encompasses many different initiatives, moving from

organisation-centred to person-centred approaches. This shift is indicated by the following:

- Ofsted inspections, which are now based on the self-evaluation form, which includes references to the outcomes of 'Every Child Matters'
- The development of extended schools and children's centres, which provides an integrated approach to the provision of services around the child and the family
- Lead professionals: a single named person is responsible for each child with additional needs
- A recognition of the importance of involving parents and carers in decision-making over the services for children and young people.

The extended schools initiative began in 2002, and these schools were expected to offer study support services to help engage pupils who might become disaffected.

Government has recognised that it is difficult for the state to affect parenting: 'There are legitimate limits on the extent to which governments can intrude into the private family sphere. This means that our approach must focus on promoting rather than mandating positive behaviours; and identifying and implementing policies to directly affect parenting and other social factors is challenging.' (Kelly 2006). Nevertheless a £9 million fund⁵⁴ was recently announced to help parents become involved in their children's learning at home.

A package of measures has been announced,⁵⁵ worth £217 million between 2010 and 2011, to narrow the social class attainment gap by providing disadvantaged young people with access to two hours a week of free after-school activities, such as music sport and drama, as part of the extended schools programme. By 2010–11, the Government will have spent over £1 billion more on narrowing the attainment gap, including:

- ensuring the continued roll-out of Sure Start children's centres and providing special outreach workers in Sure Start children's centres in the most deprived regions
- emulating the successful London Challenge programme in two other cities
- paying for 10 extra hours of tuition in English and maths for the bottom 5% of pupils, to help 600,000 pupils when they fall behind

⁵⁴ 'Funds to Help Parents Get Involved in their Children's Learning at Home' [http://www.dfes.gov.uk/pns/DisplayPN.cgi?pn_id=2007_0095], DCSF press notice.

⁵⁵ 'Education Key to Promoting Social Mobility' [http://www.dfes.gov.uk/pns/DisplayPN.cgi?pn_id=2007_0084], DCSF press notice.

- expanding school-based mental health support
- rolling out the Social and Emotional Aspects of Learning programme across all schools.

A3 Case studies and project examples

The case studies given below vary in scale and objectives, yet all aim to demonstrate the role that ICT can play as an enabler for tackling the challenges that disadvantaged young people face. Figure 6 shows the different initiatives and how they aim to help meet young people's needs based on three key areas of focus.

Adapted from the 'Digital Landscape' document and internet sources⁵⁶.

⁵⁶ Digital Inclusion Landscaping Document 2007, Digital Inclusion team, City of London. Also Internet searches on projects related to digital inclusion and use of case study banks such as Teachernet: <http://www.teachernet.gov.uk/casestudies/index.cfm>

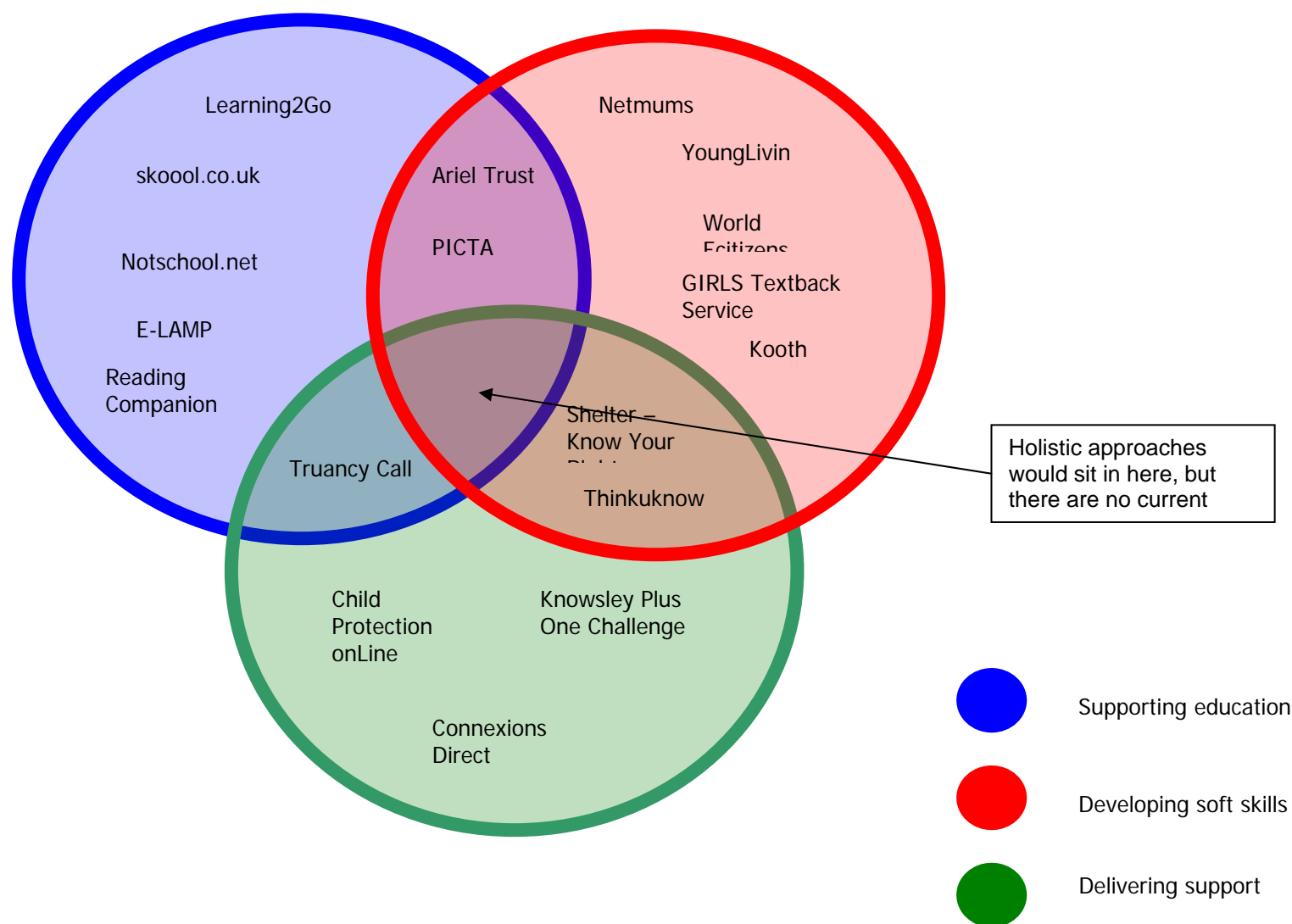


Figure 6 Case study examples of ICT in young people's lives

ACE Centre Advisory Trust http://www.ace-centre.org.uk	The ACE Centre aims to support children whose disabilities mean that they struggle to communicate, by introducing technology that can speak for them. The centre also assesses and advises on communication methods that complement the technology, as well as providing a comprehensive knowledge base for parents and professionals.
Addaction – Beat the Dealer http://www.youngaddaction.org.uk	Beat the Dealer is a simple, online computer game with an anti-drugs message from national specialist drug and alcohol treatment charity Addaction. Players have to dodge the drugs and eat fruit to get back to the Addaction HQ.
Animex – NEToons http://animex.tees.ac.uk	This animations package aims to develop basic animation skills. The package is being developed for specific groups, including primary and secondary schoolchildren, 12- to 18-year-olds, adult learners (of any age) and community groups (a potential mix of ages from very young to very old).
Ariel Trust http://www.arieltrust.com	Ariel Trust aims to improve young people's lives by delivering innovative projects based on best practice from the broadcast industry. Participants develop ICT and media skills and undertake work experience, potentially leading to employment opportunities.
Ask Brook http://www.brook.org.uk	Brook, the sexual health charity, provides this confidential sexual health and contraception advice service for young people up to the age of 25. The service is delivered via text message, email and a 24-hour manned phone line.
Baby Think It Over	A 'virtual infant simulator' (pretend baby) is designed to give teenagers a realistic experience of caring for a baby. A computer chip inside the simulator records response times, episodes of neglect and incorrect handling. Dolls are being used in schools, colleges and youth groups across the country.
Benedict School	Benedict School identified a need to streamline records of non-academic achievements and disciplinary events using an ICT-enabled approach. This new system allows the school to make more-informed decisions on disciplinary action more quickly.
BT Internet Rangers http://www.btinternetrangers.co.uk	This BT-led initiative encourages children to teach older family members to use ICT. The website provides a range of resources to enable children to organise learning activities and events. An annual

	awards scheme celebrates the most inspiring young internet teacher.
Chafford Hundred Campus http://www.chaffordhundredcampus.thurrock.sch.uk	This secondary school utilises an online managed learning environment (MLE). Pupils and parents have access to timetables, lesson plans and resources, and interaction is encouraged through e-parent evenings. Positive and negative behavioural incidents are recorded, allowing trends to be monitored, which helps the school to build effective behavioural strategies.
Chatback http://www2.kirklees.gov.uk/sms/whats_chatback.shtml	This project, run by Kirklees Council and the local Connexions service, provides a text message (SMS) communication channel for young people aged 13–21. Users sign up and receive texts about what is happening in the local area; for example, exclusive offers, accommodation, events and gigs, activities and workshops, etc.
Child Protection onLine (CPoL) http://www.cpol.nhs.uk	CPoL is the first project to provide secure, auditable electronic access to child protection registers for all authorised A&E clinicians in London via one integrated and centrally supported database. CPoL will also provide new intelligence to both A&E clinicians and social care professionals to support child protection. This will take the form of search records, audit reports of concerns, and structured electronic communications between health and social care professionals.
Connexions Direct	This project seeks to establish a central database which will bring together client-based information from service delivery and partner organisations. The database will act as a common information resource for staff delivering services, and better inform a range of policy and strategic planning processes.
Daphne the Decoy Duck	The inter-generational project ‘Daphne the Decoy Duck’ is an anti-bullying story told by older people through computers to young people in schools. Created by registered social landlord Testway Housing, it promotes community cohesion and demonstrates how to engage younger people to change behaviour.
Digital Bridge http://www.digitalbridge.org.uk	Funded principally by the Shoreditch Trust, and in partnership with organisations such as Homechoice and ITN, this large-scale project aims to provide every household on the Shoreditch estate, East London, with IPTV/broadband via a TV set-top box or PC. The project will deliver interactive content that tackles crime, housing, education and health issues, and provide a forum for community building with services that include real-time access to local community webcams, local ‘eBay’ and ‘Loot’ services,

	local jobs website, online NVQ courses and community chat rooms.
E-LAMP http://www.schmoller.net/documents/elamp-1.doc	E-LAMP projects encourage the use of ICT to enhance distance learning provision for mobile traveller children. Projects, with both primary and secondary school children, have explored the use of laptops and data cards which link to mobile telephone networks that then allow electronic interchange with teachers.
e-PAL	This project comprises the development of an electronic or virtual 'personal adviser' which acts as a co-ordinated, interactive tool for providing information, advice and guidance to young people. This includes support with job applications, access to work placements and training opportunities, with input from national schemes such as Connexions Direct and Learn Direct. E-PAL will be a structured internet-based computer program modelled on characters like Max Headroom and Lara Croft, with which young people can interact on screen and via text messaging. E-PAL will be available over existing learning networks in libraries, learning centres and on digital television.
Fairbridge – Web Awareness project http://www.fairbridge.org.uk	Delivered by youth organisation Fairbridge, this project targets disadvantaged young people aged 13–25, teaching them basic website navigation and building skills. Fairbridge projects are based in the 15 most deprived areas of England, Scotland and Wales.
GIRLS Textback Service	The Primary Care Trust in Durham and Chester-le-Street runs an SMS-based health service for girls between the ages of 13 and 25. Questions are sent by SMS to a sexual health outreach worker, who then responds. Once an enquiry has been dealt with, the contact's details are erased from the system to provide confidentiality.
Highcliffe School	Highcliffe School, a foundation school for young people aged 11–18 in Dorset, has designed a personalised web portal that allows students and parents to view information such as lesson attendance data, the merit log and achievement log, timetables and details of library loans.
Kids Help Line http://www.kidshelp.com.au	This Australian web (real-time chat), telephone and email counselling service is for young people aged between 5 and 25. The telephone service is open 24 hours a day and covers important issues such as

	family relationships. There is also an online newsletter.
Knowsley Plus One Challenge http://www.knowsleyclcs.org.uk/plusone	Knowsley Borough works in partnership with local schools to enhance and extend their activities. It provides a series of frameworks to support personalised learning, self-organisation, learning skills and support. Services include text and email revision tips, and wake-up calls for pupils who are persistently late for school.
Kooth http://www.kooth.com	This e-counselling and early intervention service is a free online counselling service for local authorities. Young people can talk to counsellors and support workers online in one-to-one chat rooms. The website is engaging and includes an online magazine with articles from young people and support workers.
Learning2Go http://www.learning2go.org	A UK school-based initiative, co-ordinated by Wolverhampton city council, uses mobile handheld computers to engage learners by delivering multimedia content, internet and authoring tools. Their ethos is that 'learners should have the choice and self-confidence to learn when, how and where they want'.
Lifting the Weight CD ROM http://www.geese.co.uk/HTML/resources.html	This multimedia game is aimed at male offenders, challenging them to make difficult decisions at 'choice points' within several real-life scenarios. The game's interactive quality is designed to encourage players to experience some of the thoughts and feelings that may lead to negative or destructive behaviours.
MentorPlace http://www.mentorplace.org	MentorPlace is a volunteer programme that brings adult professionals and students together in online relationships focused on hard (business and ICT) and soft skills (self-esteem and confidence) development. The programme was designed and piloted by the IBM Corporation as part of its global community relations programme.
Netdoctor.co.uk text service http://www2.netdoctor.co.uk/sms/mainindex.shtml#Pill	Netdoctor has developed a set of text messaging products: a reminder service for people who take the contraceptive pill, which also provides advice on how to maintain the effectiveness of its contraceptive effect; baby text, which helps parents track their baby's developmental milestones during pregnancy; and 'mind and body basics', providing simple tips on how to stay healthy.

<p>Netmums</p> <p>http://www.netmums.com</p>	<p>Netmums is an online community support portal for parents. Information includes places to go, local support groups, education, childcare, and community and employment issues. Interactive services include 'meet-a-mum' and a 'coffee house chat' message boards.</p>
<p>Notschool.net</p> <p>http://www.notschool.net</p>	<p>Notschool.net is a national, internet-based virtual online community offering an alternative learning opportunity for young people who have been excluded from mainstream education. Learners are provided with an iMac computer, printer and constant internet access at home as well as access to other equipment. Activities include creating web pages using a range of multimedia resources, including film and music. Support is provided by mentors, buddies and experts.</p>
<p>One Spirit</p> <p>http://www.learningcitizen.net/articles/OneSpiritasocialentr.shtml</p>	<p>This project used creative arts as an education tool for crime prevention. Based on blended e-learning it targeted 'at risk' offenders, too young for prison. One element of the project was 'life swapping'; young people would step into the shoes of offenders by communicating via video links to inmates on death row, St Quentin.</p>
<p>Optimum Communications Development – Everyday English Editor</p> <p>http://www.optimum-uk.com</p>	<p>A software tool which enables people who produce government information to adapt their English to reflect the vocabulary of people with low levels of literacy or other language barriers.</p>
<p>Peabody Trust – Digivan</p> <p>http://www.peabody.org.uk</p>	<p>The Digivan is a custom-built mobile classroom which offers free computer-based training to people in isolated urban areas across London. Using satellite-based internet access, the van can operate in locations where no space is available for a fixed facility. Learning and employment support professionals deliver accredited courses and job search surgeries.</p>
<p>Prisons ICT Academy (PICTA)</p> <p>http://www.picta.co.uk</p>	<p>By working with CISCO, this programme provides IT training for offenders. As well as achieving the European Computer Driving Licence, participants learn about installing networks and rebuilding machines.</p>
<p>Reading Companion</p>	<p>A web-based literacy initiative using voice-recognition technology to help children and adults learn how</p>

http://www.readingcompanion.org	to read. Users log on to the website and an on-screen mentor reads a phrase to the user, who then recites it back using a headset and microphone. The software provides feedback.
Ridgeway Infant School	Ridgeway Infant School moved to an ICT-enabled management system through which it could record pupil data, creating more teacher time and better parental relations.
RIZER – Galleries of Justice http://www.rizer.co.uk	A confidential web-based information gateway which provides advice and guidance to young people (specifically 11- to 17-year-olds) about the consequences of being involved with crime. Materials are designed by ex-offenders and delivered through video-streaming and interactive games and music, engaging young people and retaining their interest.
Shelter – Know Your Rights http://www.shelter.org.uk/advice	Shelter provides online housing advice on a range of housing issues for young people. Advice is also tailored for people in specific situations, such as students and young parents; topics include nightmare landlords and having to leave home in a hurry.
skool.co.uk http://www.skool.co.uk	This website aims to support the National Curriculum. Colourful, interactive learning activities cover maths and science subjects for Key Stages 3 and 4. Both teachers and pupils can use the resource, and the activities can be downloaded to the PC hard drive for use offline.
Text Someone http://www.textsomeone.com	Text Someone is an SMS anti-bullying service which allows pupils to text, email or phone to report problems at school, such as bullying or other antisocial behaviour. The school can then take the appropriate action.
Thinkuknow http://www.thinkuknow.co.uk	This website, run by the Child Exploitation and Online Protection (CEOP) Centre, provides information for young people on how to surf the internet safely. Topics include mobiles, blogging and gaming sites, and young people can report if they feel uncomfortable or worried about someone they are chatting to online.
Truancy Call http://www.truancycall.com	Truancy Call aims to help reduce school absences. School staff contact parents of absentees via automated phone call, text message and email; recipients respond in the same way. The service allows

	parents to inform the school of the reason for their child's absence and the likely duration.
UK Online Pilots in 2007 http://www.ufi.com/home/section1/6_projects.asp	National organisation UK online runs a number of diverse projects. Elements include inter-generational clubs, for example in which older people use ICT to support young people; ICT training/activities for families as groups to increase interaction between family members; digital mentoring; linking ICT learning to Bookstart programmes and baby clinics for teenage parents.
Virtual College http://www.virtual-college.co.uk	The Virtual College has developed a comprehensive product range specifically focused on helping learning and training organisations improve their business performance through the adoption of new technology.
WebPlay http://www.webplay.org	WebPlay combines technology and drama to enable children to share insights into each other's lives. The internet-based initiative extends classroom activities by supporting primary school children to create plays in collaboration with professional theatre companies and other children from around the country/world.
World Ecitizens http://www.wordecitizens.net	World Ecitizens is a technology programme from Mirandanet aiming to address issues such as good citizenship, global inequality and personalised learning. The online space allows children in schools, from different cultures from around the world, to share their ideas about what kind of world they want to grow up in. Students are able to post/share ideas and leave comments, and are encouraged to use technology such as video phones.
YoungLivin http://www.younglivin.org.uk	YoungLivin is an interactive website and text messaging service from Kingston Borough Council providing advice and support to young people in the borough on a broad range of personal and social issues; for example, bullying, drugs, health and relationships. The website is maintained by young people, ensuring that content remains engaging. It has also become a virtual marketplace for local agencies to promote their services.